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Natural
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Conservation
Service

Washington Basin Outlook Report February 1, 2001

COY 2001
M.T.



Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

Local Natural Resources Conservation Service Field Office

or

Scott Pattee

Water Supply Specialist

Natural Resources Conservation Service

2021 E. College Way, Suite 214

Mt. Vernon, WA 98273-2873

(360) 428-7684

or

Betty Schmitt

Public Affairs Specialist

Natural Resources Conservation Service

316 W. Boone Ave., Suite 450

Spokane, WA 99201-2348

(509) 323-2912

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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Washington Water Supply Outlook

February 2001

General Outlook

Washington State snowpack and precipitation is near record low levels. Streamflow forecasts for the upper Columbia River region are all drastically low, reflecting the state of meteorologic conditions in the region. State wide, conditions have worsened from the last report issued in January with streamflow forecasts dropping by 10-20 percent in most basins. January precipitation was less than half of the statewide average, reducing the accumulated snowpack average by several percentage points. Averages increased slightly with the winter storms received the first week of February but we will need several more productive fronts to have any chance at catching up. The lack of precipitation has also reduced available reservoir storage to precariously low levels.

Snowpack

The February 1 statewide SNOTEL readings were below average at 58%. The Elwah River Basin snow surveys reported the lowest readings at only 12% of average. Readings taken in the Quilcene Basin reported the highest at 81% of average. Westside averages from SNOTEL and February 1 snow surveys included the North Puget Sound river basins with 50%, the Central Puget river basins with 66%, and the Lewis-Cowlitz basins with 65%. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 57% and the Wenatchee area with 61%. Snowpack in the Spokane River Basin was at 57% and the Pend Oreille River Basin, including Canadian data, had 54% of average. New record minimum snowpack was recorded at 18 SNOTEL sites in Washington on February 1. With a few exceptions most of these sites are located north of latitude 47 degrees north. Basin wide averages remain well below average however no basin has dropped below the previous record.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	53	57
Newman Lake	49	74
Pend Oreille	65	66
Okanogan	62	59
Methow	58	54
Similkameen	87	64
Wenatchee	59	76
Chelan	58	61
Stemilt Creek	75	66
Yakima	55	60
Ahtanum Creek	53	54
Walla Walla	64	70
Lower Snake	58	66
Cowlitz	48	60
Lewis	44	70
White	50	61
Green	40	45
Puyallup	49	61
Cedar	57	81
Snoqualmie	49	59
Skykomish	54	63
Skagit	45	48
Baker	42	50
Nooksack	42	53
Olympic Peninsula	40	46

Precipitation

During the month of January, the National Weather Service and Natural Resources Conservation Service climate stations reported well below average precipitation for Washington river basins. The highest percent of average in the state was at Quillayute WSO Airport near Forks, Washington. Quillayute reported 76% of average for a total of 11.15 inches. The average for this site is 14.65 inches for January. Averages for the water year varied from 67% of average in the Walla Walla river basins to 44% of average in Colville – Pend Oreille river basins. The highest individual site average for the water year was 84% of average at Mill Creek Dam near Walla Walla.

RIVER BASIN	JANUARY PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	44	48
Colville-Pend Oreille	29	44
Okanogan-Methow	34	48
Wenatchee-Chelan	35	47
Upper Yakima	41	48
Lower Yakima	40	49
Walla Walla	52	67
Lower Snake	46	63
Cowlitz-Lewis	35	46
White-Green-Puyallup	43	53
Central Puget Sound	46	52
North Puget Sound	51	52
Olympic Peninsula	68	63

Reservoir

Early season reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for winter collection, fisheries management and power generation. Reservoir storage in the Yakima Basin was 234,200-acre feet, 45% of average for the Upper Reaches and 101,900-acre feet, 82% of average for Rimrock and Bumping Lakes. Storage at the Okanogan reservoirs was 47% of average for February 1. The power generation reservoirs included the following: Coeur d'Alene Lake, 28,100 acre feet, 22% of average and 12% of capacity; Chelan Lake, 365,100 acre feet, 81% of average and 54% of capacity; and Ross Lake at 84% of average and 62% of capacity.

BASIN	PERCENT OF CAPACITY	PERCENT OF AVERAGE
Spokane	12	22
Colville-Pend Oreille	33	47
Okanogan-Methow	54	92
Wenatchee-Chelan	54	81
Upper Yakima	28	45
Lower Yakima	44	82
North Puget Sound	64	86

For more information contact your local Natural Resources Conservation Service office.

Streamflow

Early season forecasts indicate much below to slightly below normal summer flows for all streams in the state. They vary from 85% of average for Mill Creek at Walla Walla to 45% of average for Colville River at Kettle Falls. February forecasts for some Western Washington streams include: Cedar River near Cedar Falls, 72%; Green River, 69%; and Skagit River, 73%. Some Eastern Washington streams include the Yakima River near Parker, 64%; Wenatchee River at Peshastin, 63%; and Spokane River near Post Falls, 61%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data collected and coordinated by organizations cooperating with NRCS.

Streamflows reported for January were well below average across the state. The Columbia River at Birchbank, had the highest flows with 72% of average. The Cle Elum River near Roslyn with 20% of average, was the lowest in the state. Other streamflows were the following percentage of average: the Priest River, 55%; the Columbia at Grand Coulee Dam, 62%; the Spokane at Spokane, 28%; the Columbia below Rock Island Dam, 62%; the Cowlitz River at Castle Rock, 32%; and the Snake River below Ice Harbor Dam, 50%.

BASIN	PERCENT OF AVERAGE MOST PROBABLE FORECAST (50 PERCENT CHANCE OF EXCEEDENCE)
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Spokane	61-65
Colville-Pend Oreille	45-70
Okanogan-Methow	56-63
Wenatchee-Chelan	55-76
Upper Yakima	62-74
Lower Yakima	54-79
Walla Walla	82-85
Lower Snake	64-79
Cowlitz-Lewis	63-79
White-Green-Puyallup	69-75
North Puget Sound	73-77
Olympic Peninsula	70-71

STREAM	PERCENT OF AVERAGE JANUARY STREAMFLOWS
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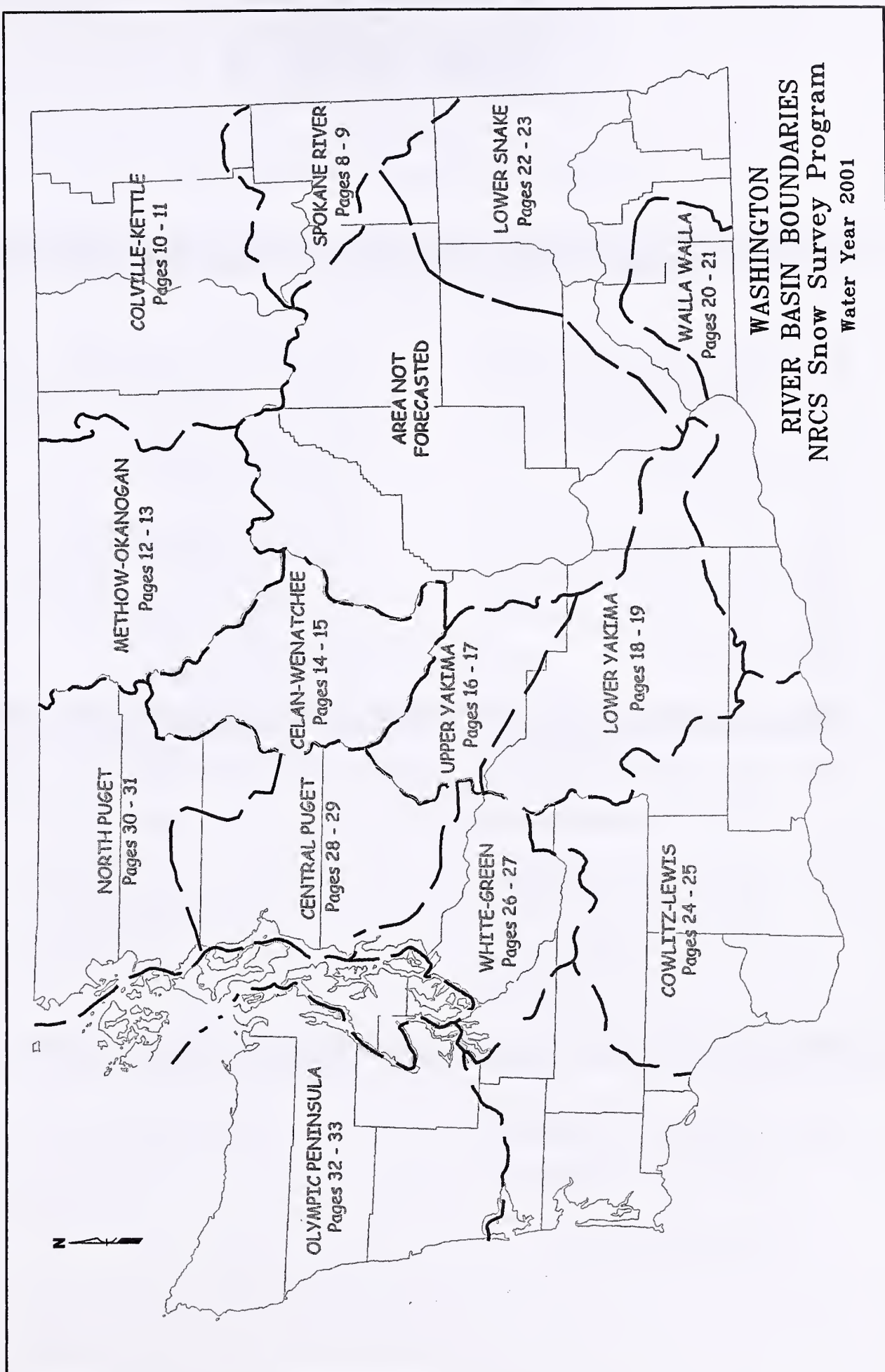
Pend Oreille Below Box Canyon	52
Kettle at Laurier	66
Columbia at Birchbank	72
Spokane at Long Lake	37
Similkameen at Nighthawk	55
Okanogan at Tonasket	61
Methow at Pateros	65
Chelan at Chelan	32
Wenatchee at Pashastin	35
Yakima at Cle Elum	27
Yakima at Parker	25
Naches at Naches	28
Grande Ronde at Troy	38
Snake below Lower Granite Dam	49
SF Walla Walla near Milton Freewater	45
Lewis at Ariel	34
Cowlitz below Mayfield Dam	33
Skagit at Concrete	53

For more information contact your local Natural Resources Conservation Service office.

BASIN SUMMARY OF SNOW COURSE DATA

FEBRUARY 2001

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
ABERDEEN LAKE CAN.	4000	1/29/01	13	3.2	3.8	4.7	MARIAS PASS	5250	2/01/01	24	6.7	12.0	11.2
AHTANUM R.S.	3100	2/01/01	---	2.6E	4.5	5.8	MCCULLOCH CAN.	4200	1/31/01	20	3.0	3.8	4.7
ALPINE MEADOWS PILL	3500	2/01/01	---	20.4	43.8	28.8	MEADOWS CABIN	1900	1/31/01	10	2.1	7.3	5.4
ASHLEY DIVIDE	4820	1/30/01	16	3.4	4.4	5.0	MEADOWS PASS PILL	3240	2/01/01	---	13.2	20.6	16.2
BADGER PASS PILL	6900	2/01/01	---	9.1	18.9	22.8	MERRITT	2140	2/01/01	27	8.3	8.6	12.4
BARKER LAKES PILL	8250	2/01/01	---	6.8	5.5	9.4	MICA CREEK PILL	4750	2/01/01	---	13.5	20.8	--
BASIN CREEK PILL	7180	2/01/01	---	4.6	4.0	5.0	MISSEZULA MTN CAN.	5080	2/03/01	21	4.3	3.9	6.5
BEAVER CREEK TRAIL	2200	2/02/01	22	5.8	15.4	9.7	MISSION RIDGE	5000	1/31/01	27	7.6	9.9	11.5
BEAVER PASS	3680	2/02/01	34	7.7	19.8	19.7	MOOSE CREEK PILL	6200	2/01/01	---	5.7	12.7	11.6
BERNE-MILL CREEK (d)	3170	2/01/01	45	14.3	19.8	19.9	MORRISSEY RIDGE CAN.	6100	2/01/01	---	6.8	14.2	19.4
BIG WHITE MTN CAN.	5510	1/31/01	32	7.0	11.8	13.3	MORSE LAKE PILL	5400	2/01/01	---	18.1	31.0	29.6
BLACK PINE PILL	7100	2/01/01	---	5.0	6.6	8.0	MOSES MTN PILL	4800	2/01/01	---	4.6	10.5	10.0
BLEWETT PASS #2	4270	1/30/01	32	8.0	12.6	11.6	MOSQUITO RDG PILL	5200	2/01/01	---	11.4	26.7	25.2
BLEWETT PASS#2PILL	4270	2/01/01	29	6.5	9.7	13.6	MOULTON RESERVOIR	6850	1/24/01	19	3.7	4.6	4.9
BRENDA MINE CAN.	4450	2/01/01	---	5.8	8.1	8.9	MOUNT CRAG PILL	4050	2/01/01	---	13.7	24.1	16.9
BRIEF	1600	1/31/01	19	5.0	4.1	6.0	MT. KOBAY	5500	1/29/01	24	5.9	6.2	8.5
BROWN TOP AM	6000	1/30/01	68	18.0	45.4	41.2	MOUNT GARDNER PILL	2860	2/01/01	---	9.0	13.7	9.6
BUMPING LAKE (NEW)	3400	1/31/01	34	9.0	9.8	14.2	MUTTON CREEK #1	5700	1/29/01	23	4.9	8.5	9.2
BUMPING RIDGE PILL	4600	2/01/01	103	10.3	20.0	13.9	N.F. ELK CR PILL	6250	2/01/01	---	5.2	7.4	8.1
BUNCHGRASS MDWPILL	5000	2/01/01	---	10.2	19.6	18.8	NEW HORIZONE LAKE	2800	1/30/01	15	3.3	7.2	8.0
CAYUSE PASS	5300	2/01/01	---	33.3E	66.0	52.9	NEZ PERCE CMP PILL	5650	2/01/01	---	5.7	10.7	9.8
CHESSMAN RESERVOIR	6200	1/30/01	9	1.8	1.1	2.7	NOISY BASIN PILL	6040	2/01/01	---	11.3	24.9	26.2
CHICKEN CREEK	4060	1/26/01	24	5.8	12.8	10.9	OLALLIE MDWS PILL	3960	2/01/01	---	19.2	31.9	34.3
CHIWAUKUM G.S.	2500	2/01/01	20	5.9	7.6	8.7	OLALLIE MEADOWS	3630	2/01/01	---	16.8E	28.0	29.3
CLOUDY PASS AM	6500	2/01/01	---	12.7E	28.7	27.1	OPHIR PARK	7150	1/28/01	26	6.5	8.4	11.2
COLOCUM PASS	5370	1/29/01	26	6.0	9.4	11.5	PARADISE PARK PILL	5500	2/01/01	---	25.1	53.9	38.5
COMBINATION PILL	5600	2/01/01	---	2.5	2.6	3.8	PARK CK RIDGE PILL	4600	2/01/01	58	17.5	32.2	29.6
COPPER BOTTOM PILL	5200	2/01/01	---	4.0	7.9	7.4	PETERSON MDW PILL	7200	2/01/01	---	5.6	4.4	6.5
COPPER MOUNTAIN	7700	1/27/01	28	7.4	--	7.0	PIGTAIL PEAK PILL	5900	2/01/01	---	17.4	27.9	30.4
CORRAL PASS PILL	6000	2/01/01	---	12.0	26.4	21.3	PIKE CREEK PILL	5930	2/01/01	---	6.7	14.9	17.1
COUGAR MTN. PILL	3200	2/01/01	---	7.4	11.5	15.0	PIPESTONE PASS	7200	1/28/01	14	2.9	2.4	3.3
COX VALLEY	4500	1/28/01	33	10.4	31.5	24.9	POPE RIDGE PILL	3540	2/01/01	33	7.9	12.4	13.9
COYOTE HILL	4200	1/30/01	22	4.0	7.1	7.5	POTSTILL LAKE CAN.	4200	1/30/01	21	4.8	4.3	5.5
DALY CREEK PILL	5780	2/01/01	---	5.0	7.0	7.8	POTATO HILL PILL	4500	2/01/01	---	12.0	19.7	16.4
DEER PARK	5200	1/30/01	20	6.1	12.0	13.5	QUARTZ PEAK PILL	4700	2/01/01	---	8.7	19.7	14.0
DEVILS PARK	5900	2/01/01	53	15.2	30.4	30.3	ROUND TOP MTN	4020	1/31/01	29	7.2	14.7	--
DISCOVERY BASIN	7050	1/25/01	28	6.3	5.0	6.8	RAGGED RIDGE	3330	1/31/01	24	6.2	10.6	6.2
DIX HILL	6400	1/28/01	24	5.9	7.6	8.2	RAINY PASS PILL	4780	2/01/01	---	13.4	25.0	24.5
DOMMERIE FLATS	2200	1/31/01	20	5.9	6.6	7.0	REX RIVER PILL	1900	2/01/01	36	10.5	24.9	17.9
EAST RAGGED SADDLE	3740	2/03/01	40	11.2	19.9	15.0	ROCKER PEAK PILL	8000	2/01/01	---	7.9	5.9	9.8
EASY PASS AM	5200	2/01/01	---	20.5E	48.0	45.6	RUSTY CREEK	4000	1/29/01	14	2.4	3.5	5.0
ELBOW LAKE PILL	3200	2/01/01	---	13.7	37.6	23.4	SF THUNDER CK AM	2200	2/01/01	---	2.7E	7.3	6.2
EMERY CREEK PILL	4350	2/01/01	---	5.1	10.4	10.9	SADDLE MTN PILL	7900	2/01/01	---	8.9	14.1	17.0
ENDERBY CAN.	5800	1/27/01	50	13.8	30.7	25.2	SALMON MDWS PILL	4500	2/01/01	17	3.6	5.0	5.9
FARRON CAN.	4000	1/31/01	22	5.3	9.4	9.3	SASSE RIDGE PILL	4200	2/01/01	---	11.9	24.2	21.6
FISH CREEK	8000	1/24/01	24	5.6	4.0	6.4	SAVAGE PASS PILL	6170	2/01/01	40	9.0	16.3	17.4
FISH LAKE	3370	1/30/01	54	12.8	28.6	21.1	SAWMILL RIDGE	4700	1/27/01	27	9.2	26.7	23.9
FISH LAKE PILL	3370	2/01/01	44	12.0	26.2	22.0	SCHRIEBERS MDW AM	3400	2/01/01	---	20.4E	48.0	35.1
FLATTOP MTN PILL	6300	2/01/01	---	14.0	26.7	32.3	SHEEP CANYON PILL	4050	2/01/01	---	13.3	40.6	25.2
FOURTH OF JULY SUM	3200	2/02/01	33	7.2	9.8	7.2	SILVER STAR MTN CAN.	5600	1/28/01	39	11.3	22.4	18.9
FREEZEOUT CK. TRAIL	3500	1/30/01	17	3.9	8.1	8.8	SKALKAHO PILL	7260	2/01/01	---	8.8	14.1	15.8
FROHNER MDWS PILL	6480	2/01/01	---	3.6	3.5	5.6	SKOOKUM CREEK PILL	3920	2/01/01	0	9.19	31.7	19.3
GOAT CREEK	3600	1/29/01	17	3.7	4.4	5.2	SPENCER MDW PILL	3400	2/01/01	---	14.7	34.6	20.0
GRASS MOUNTAIN #2	2900	1/27/01	0	.0	8.0	10.3	SPIRIT LAKE PILL	3100	2/01/01	23	2.3	9.9	6.4
GRAVE CRK PILL	4300	2/01/01	---	6.3	10.3	11.9	SPOTTED BEAR MTN.	7000	2/01/01	---	5.2E	9.7	10.3
GREEN LAKE PILL	6000	2/01/01	36	8.6	16.1	14.1	STAHL PEAK PILL	6030	2/01/01	---	10.3	20.2	23.5
GREYBACK RES CAN.	4700	1/29/01	22	4.4	--	6.1	STAMPEDE PASS PILL	3860	2/01/01	---	17.3	34.2	28.8
GROUSE CAMP PILL	5380	2/01/01	---	7.6	13.4	13.8	STEMILT SLIDE	5000	1/30/01	26	6.1	9.4	10.3
HAMILTON HILL CAN.	4550	2/03/01	28	6.6	7.6	10.1	STEVENS PASS PILL	4070	2/01/01	---	14.1	23.3	27.3
HAND CREEK PILL	5030	2/01/01	---	4.0	7.8	8.3	STEVENS PASS SAND SD	3700	2/01/01	51	15.7	25.1	23.9
HARTS PASS PILL	6500	2/01/01	53	14.6	25.2	27.7	STORM LAKE	7780	1/25/01	34	7.5	5.8	8.7
HELL ROARING DIVIDE	5770	1/30/01	30	7.4	19.1	20.5	STRYKER BASIN	6180	1/26/01	34	9.4	17.6	21.6
HERRIG JUNCTION	4850	1/26/01	30	7.6	16.0	16.7	SUMMERLAND RES CAN.	4200	1/29/01	20	3.6	4.6	6.9
HIGH RIDGE PILL	4980	2/01/01	---	12.1	17.6	16.0	SUMMIT G.S.	4600	1/29/01	23	5.1	6.2	5.6
HOLBROOK	4530	2/01/01	---	3.0E	7.0	7.2	SUNSET PILL	5540	2/01/01	---	9.5	17.4	20.7
HOODOO BASIN PILL	6050	2/01/01	---	12.5	26.8	31.0	SURPRISE LKS PILL	4250	2/01/01	---	20.3	43.5	30.4
HUMBOLDT GLCH PILL	4250	2/01/01	---	6.7	11.6	9.7	TEN MILE LOWER	6600	1/30/01	17	3.2	2.8	5.0
HURRICANE	4500	1/27/01	7	1.7	14.7	13.7	TEN MILE MIDDLE	6800	1/30/01	24	5.0	4.2	7.6
INTERGAARD	6450	1/30/01	21	3.6	3.2	5.2	THUNDER BASIN	4200	2/01/01	31	8.6	16.8	13.5
ISINTOK LAKE CAN.	5100	1/30/01	18	4.2	3.4	5.2	TINKHAM CREEK PILL	3000	2/01/01	---	13.4	21.1	12.9
JUNE LAKE PILL	3200	2/01/01	---	18.1	41.6	28.1	TOGO	3370	2/01/01	---	6.0E	9.4	7.8
KELLOGG PEAK	5560	2/01/01	43	12.2	25.0	--	TOUCHET #2 PILL	5530	2/01/01	---	13.5	22.5	20.8
KLESILKWA CAN.	3450	1/27/01	9	2.2	8.8	8.8	TRINKUS LAKE	6100	2/01/01	---	13.7E	26.0	25.0
KRAFT CREEK PILL	4750	2/01/01	---	6.3	11.2	11.4	TROUGH #2 PILL	5310	2/01/01	---	5.3	7.2	6.4
LESTER CREEK	3100	1/27/01	28	8.2	16.8	14.8	TROUT CREEK CAN.	5650	1/28/01	18	3.5	4.4	5.4
LOLO PASS PILL	5240	2/01/01	43	9.5	21.4	21.1	TRUMAN CREEK	4060	1/31/01	15	3.2	2.8	3.2
LONE PINE PILL	3800	2/01/01	---	16.2	36.9	20.8	TUNNEL AVENUE	2450	1/31/01	39	11.6	15.7	15.4
LOOKOUT PILL	5140	2/01/01	---	11.9	22.9	22.3	TV MOUNTAIN	6800	2/01/01	---	7.1E	10.4	12.0
LOST HORSE MTN CAN.	6300	1/30/01	20	3.7	5.2	6.3	TWELVEMILE PILL	5600	2/01/01	---	6.9	13.8	12.5
LOST HORSE PILL	5000	2/01/01	32	7.5	14.4	22.4	TWIN CAMP	4100	1/27/01	23	7.8	24.3	16.9
LOST LAKE PILL	6110	2/01/01	---	16.3	38.0	41.2	TWIN LAKES PILL	6400	2/01/01	---	13.3	28.8	26.3
LUBRECHT FOREST NO 3	5450	1/30/01	15	2.8	4.2	5.0	TWIN SPIRIT DIVIDE	3480	2/03/01	27	7.3	10.2	10.3
LUBRECHT FOREST NO 4	4650	1/30/01	10	1.9	2.0	2.7	UPPER HOLLAND LAKE	6200	2/01/01	---	12.0E	24.7	23.4
LUBRECHT FOREST NO 6	4040	1/30/01	12	2.2	2.2	3.2	UPPER WHEELER PILL	4400	2/01/01	---	6.8	7.8	9.3
LUBRECHT HYDROPLT	4200	1/30/01	17	3.1	3.5	5.4	WARM SPRINGS PILL	7800	2/01/01	---	9.9	11.8	14.1
LUBRECHT PILL	4680	2/01/01	---	3.3	4.0	4.5	WEASLE DIVIDE	5450	1/31/01	34	9.2	20.6	21.8
LYMAN LAKE PILL	5900	2/01/01	---	19.9	44.6	39.0	WELLS CREEK PILL	4200	2/01/01	---	11.7	23.5	24.6
LYNN LAKE	4000	1/27/01	18	5.8	19.3	14.8	WHITE PASS ES PILL	4500	2/01/01	---	8.2	15.2	15.5





Natural Resources Conservation Service

Washington State
Snow, Water and Climate Services

Program Contacts

Leonard Jordan
State Conservationist
W. 316 Boone Ave., Suite 450
Spokane, WA 99201-2348
phone: 509-323-2961
fax: 509-323-2979
leonard.jordan@wa.usda.gov

Scott Pattee
Water Supply Specialist
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873
phone: 360-428-7684
fax: 360-424-6172
scott.pattee@wa.usda.gov

Betty Schmitt
Public Affairs Specialist
W. 316 Boone Ave., Suite 450
Spokane, WA 99201-2348
phone: 509-323-2912
fax: 509-323-2909
betty.schmitt@wa.usda.gov

Chris Pacheco
Resource Conservationist
National Water and Climate Center
101 SW Main St., Suite 1600
Portland, OR 97204-3224
phone: 503-414-3056
fax: 503-414-3101
cpacheco@wcc.nrcs.usda.gov

Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:

<http://www.wa.nrcs.usda.gov/snow/snow.htm>

Oregon:

<http://crystal.or.nrcs.usda.gov/snows-surveys>

Idaho:

<http://idsnow.id.nrcs.usda.gov>

National Water and Climate Center (NWCC):

<http://www.wcc.nrcs.usda.gov>

NWCC Anonymous FTP Server:

<ftp.wcc.nrcs.usda.gov>

USDA-NRCS Agency Homepages

Washington:

<http://www.wa.nrcs.usda.gov/nrcs>

NRCS National:

<http://www.ftw.nrcs.usda.gov>



Natural Resources Conservation Service
Washington State
Snow, Water and Climate Services

Field Office Contacts

Eastern Washington

Jimmie Gleaton
District Conservationist
232 Williams Lake Road
Colville, WA 99114-9638
509-685-0937
jimmie.gleaton@wa.usda.gov

Gary Mitchell
District Conservationist
301 Yakima Street, Room 301
Wenatchee, WA 98801-2966
509-664-0265
gary.mitchell@wa.usda.gov

Randy Kelley
District Conservationist
1251 Second Ave. South, Room 101
Okanogan, WA 98840-9723
509-422-2750
randy.kelly@wa.usda.gov

David Chain
District Conservationist
607 E. Mountain View
Ellensburg, WA 98926
509-925-8585
david.chain@wa.usda.gov

Western Washington

John Gillies
District Conservationist
6975 Hannegen Road
Lynden, WA 98205-1535
360-354-2035
john.gillies@wa.usda.gov

Kerry Perkins
District Conservationist
111 East 3rd, Room 2B
Port Angeles, WA 98362-3009
360-457-5091
kerry.perkins@wa.usda.gov

Monica Hoover
Wetland Specialist
1835 Black Lake Blvd SW, STE E
Olympia, WA 98512-5623
360-704-7752
monica.hoover@wa.usda.gov

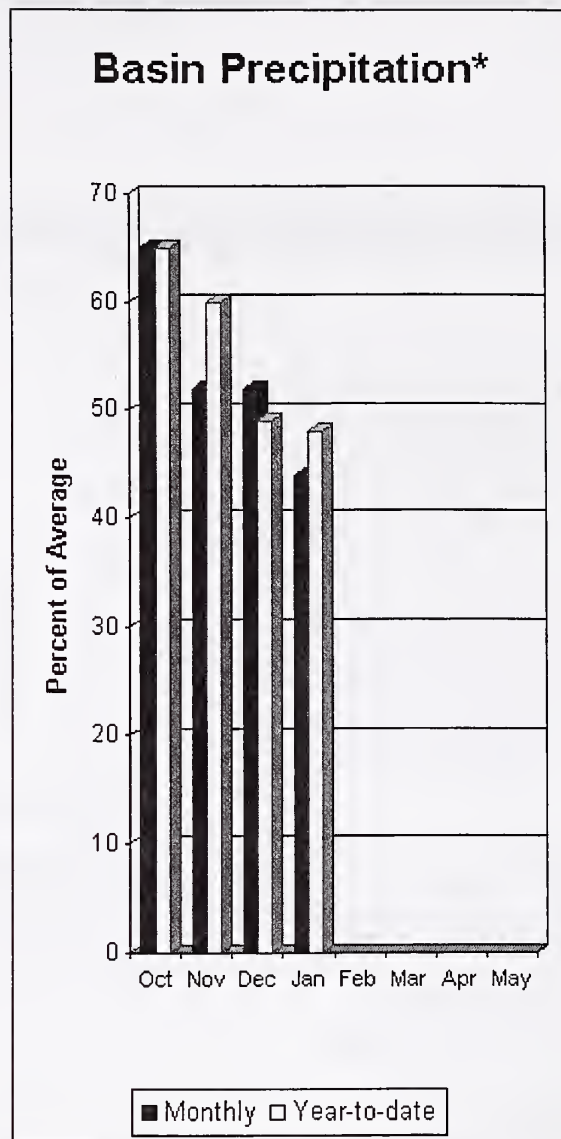
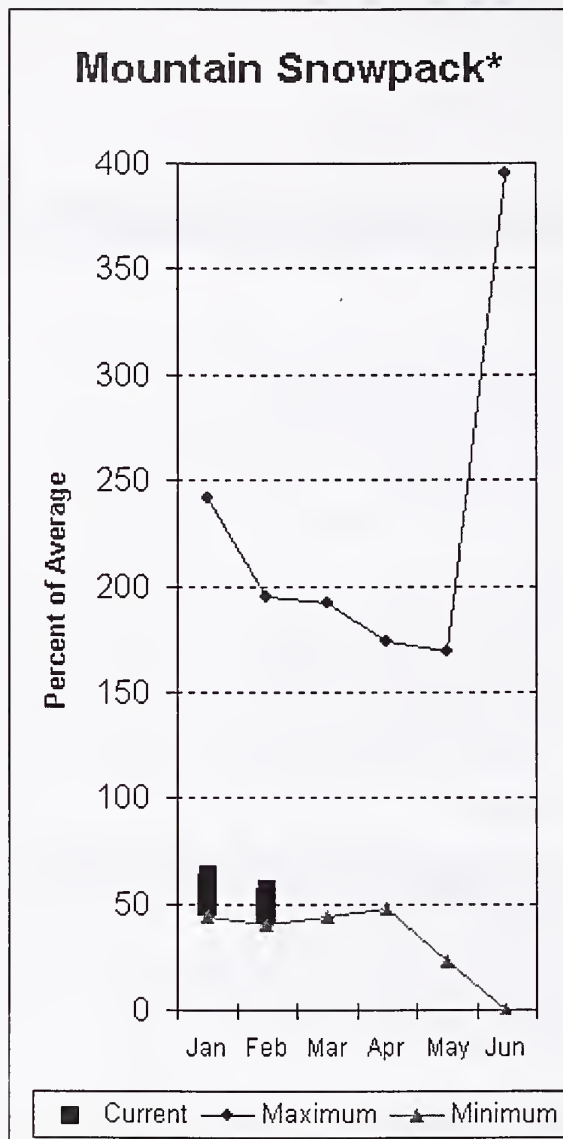
Scott Pattee
Water Supply Specialist
2021 E. College Way, Suite 214
Mount Vernon, WA 98273-2873
360-428-7684
scott.pattee@wa.usda.gov

Data Collection Offices

Jon Lea
Oregon Data Collection Office
101 SW Main St., Suite 1300
Portland, OR 97204
503-414-3267
jon.lea@or.usda.gov

Ron Abramovich
Idaho Data Collection Office
9173 West Barnes, Suite C
Boise, ID 83709
208-378-5741
ron.abramovich@id.usda.gov

Spokane River Basin



*Based on selected stations

The February 1 forecasts for summer runoff within the Spokane River Basin are 61% of average near Post Falls and 65% at Long Lake. The forecast is based on a basin snowpack that is 57% of average and precipitation that is 48% of average for the water year. Precipitation for January was much below normal at 44% of average. Streamflow on the Spokane River at Long Lake, was 37% of average for January. February 1 storage in Coeur d'Alene Lake, was 28,100-acre feet, 22% of average and 12% of capacity. Snowpack at Quartz Peak SNOTEL site contained 8.7 inches of water, compared to the average February 1 reading of 14 inches. Average temperatures in the Spokane basin were 1 degrees below normal for January and 3 degrees below for the water year.

For more information contact your local Natural Resources Conservation Service office.

Spokane River Basin

Streamflow Forecasts - February 1, 2001

SPOKANE near Post Falls (2)	APR-SEP	1054	1409	1650	61	1891	2246	2720
	APR-JUL	1073	1419	1655	63	1891	2237	2627
SPOKANE at Long Lake (2)	APR-JUL	1247	1645	1915	66	2185	2583	2905
	APR-SEP	1319	1736	2020	65	2304	2721	3128

SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of January					SPOKANE RIVER BASIN Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
COEUR D'ALENE	238.5	28.1	65.4	127.8	SPOKANE RIVER	11	53	57
					NEWMAN LAKE	2	49	74

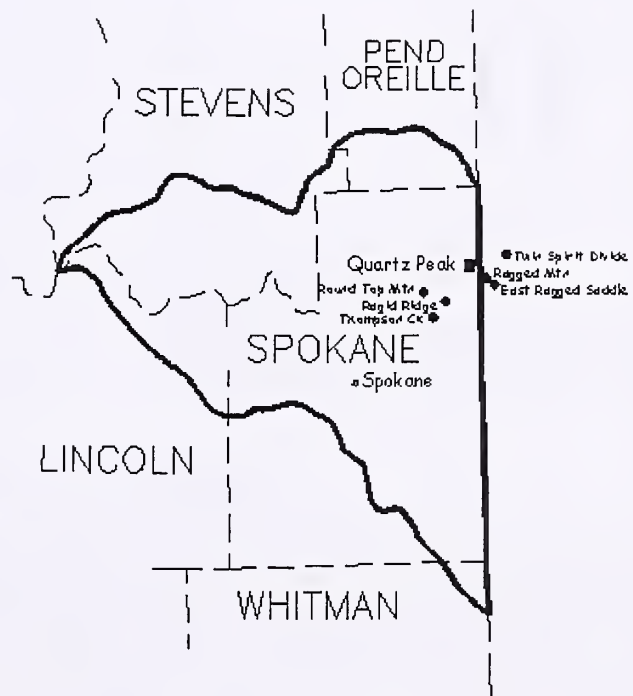
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The average is computed for the 1961-1990 base period.

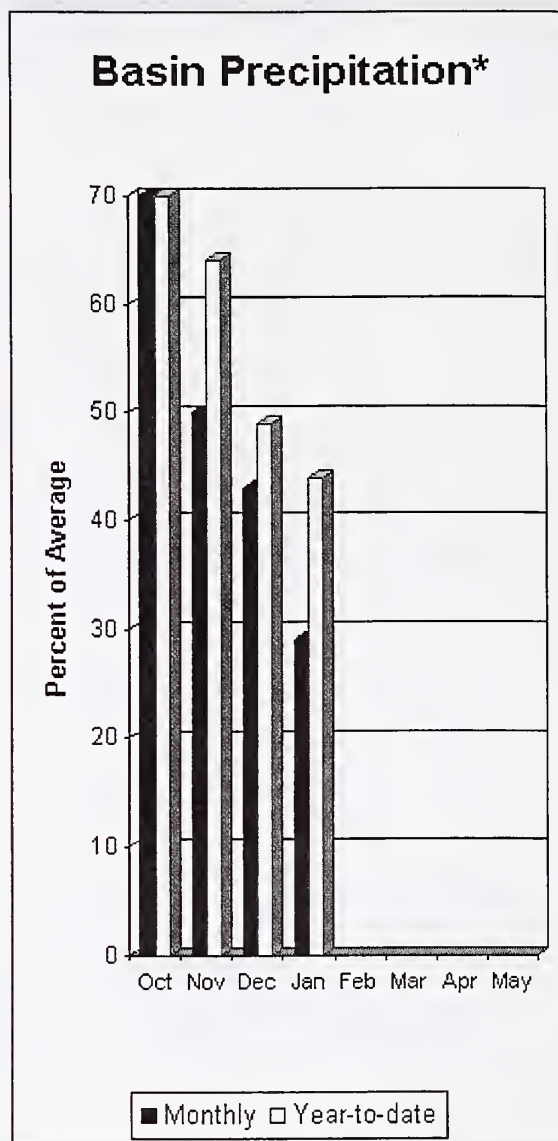
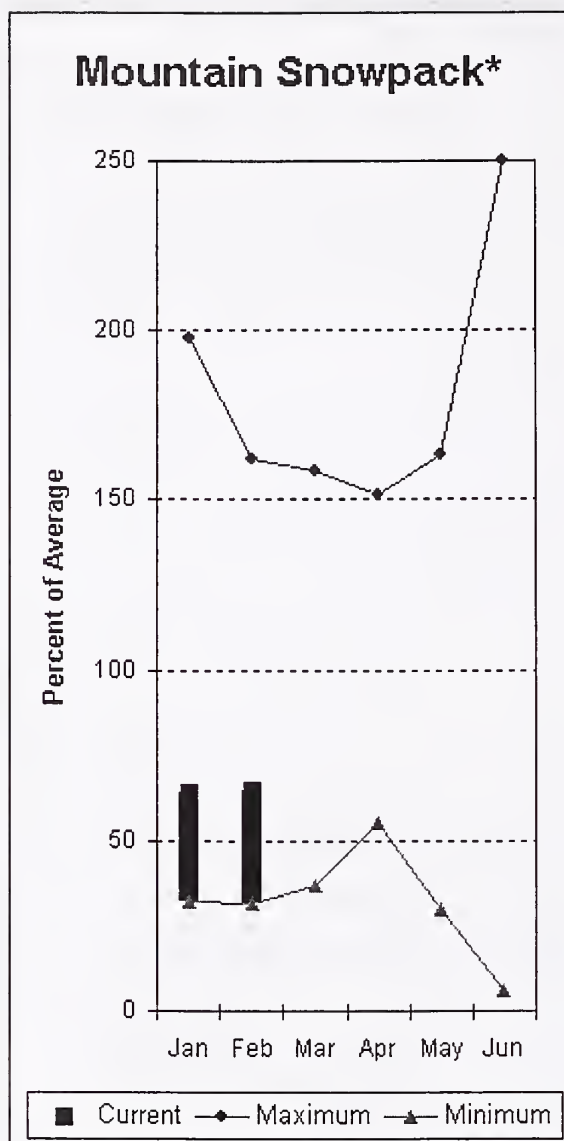
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 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Spokane River Basin
Percent of Average
February 1, 2001

Snowpack - 57%
Precipitation - 48%
Reservoir - 22%



Colville - Pend Oreille River Basins



*Based on selected stations

The April – September average forecast for the Kettle River streamflow is 66%, Colville at Kettle Falls is 45%, and Priest River near the town of Priest River is 56%. January streamflow was 52% of average on the Pend Oreille River, 72% on the Columbia at the International Boundary and 66% on the Kettle River. February 1 snow cover was 54% of average in the Pend Oreille Basin and 63% in the Kettle River Basin. Bunchgrass Meadows SNOTEL set a new record minimum with only 10.2 inches of snow water. Normally Bunchgrass would have 18.8 inches on February 1. Precipitation during January was 29% of average, bringing the year-to-date precipitation to 44% of average. Reservoir storage in Roosevelt and Banks lakes was reported to be 72% of average and 33% of capacity on February 1. Average temperatures were 1 degrees below normal for January and 3 below for the water year.

For more information contact your local Natural Resources Conservation Service office.

Colville - Pend Oreille River Basins

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
PEND OREILLE Lake Inflow (2)	APR-JUL	4170	5926	7120	54	8314	10070	13150
	APR-SEP	3613	6094	7780	54	9466	11947	14370
PRIEST near Priest River (1,2)	APR-JUL	296	405	455	56	505	614	812
	APR-SEP	312	431	485	56	539	658	865
PEND OREILLE bl Box Canyon (2)	APR-JUL	4557	6155	7240	54	8325	9923	13380
	APR-SEP	4070	6350	7900	54	9450	11730	14590
CHAMOKANE CREEK near Long Lake	MAY-AUG	1.17	3.93	5.80	68	7.67	10.43	8.52
COLVILLE at Kettle Falls	APR-SEP	18.0	42	59	45	76	100	131
	APR-JUL	15.0	38	54	45	70	93	120
KETTLE near Laurier	APR-SEP	855	1072	1220	66	1368	1585	1854
	APR-JUL	828	1025	1160	66	1295	1492	1761
COLUMBIA at Birchbank (1,2)	APR-JUL	18717	22694	24500	70	26306	30283	35140
	APR-SEP	23264	28309	30600	70	32891	37936	43810
COLUMBIA at Grand Coulee Dm (1,2)	APR-SEP	29817	38401	42300	65	46199	54783	64850
	APR-JUL	25146	32335	35600	65	38865	46054	54543

COLVILLE - PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of January					COLVILLE - PEND OREILLE RIVER BASINS Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROOSEVELT	5232.0	1750.9	3180.5	3749.0	COLVILLE RIVER	1	64	77
BANKS		NO REPORT			PEND OREILLE RIVER	44	57	53
					KETTLE RIVER	4	66	63

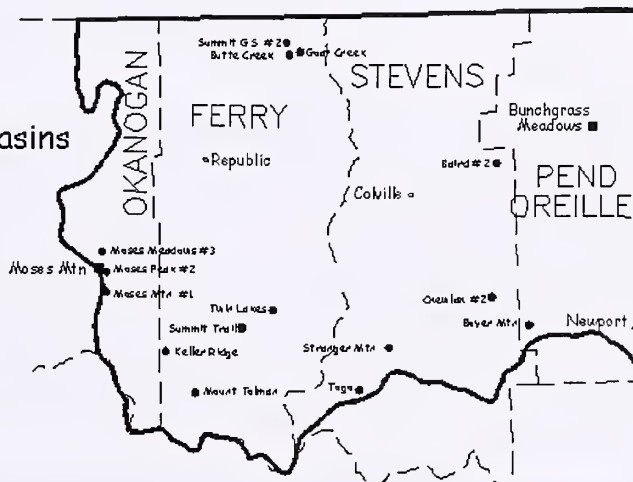
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The average is computed for the 1961-1990 base period.

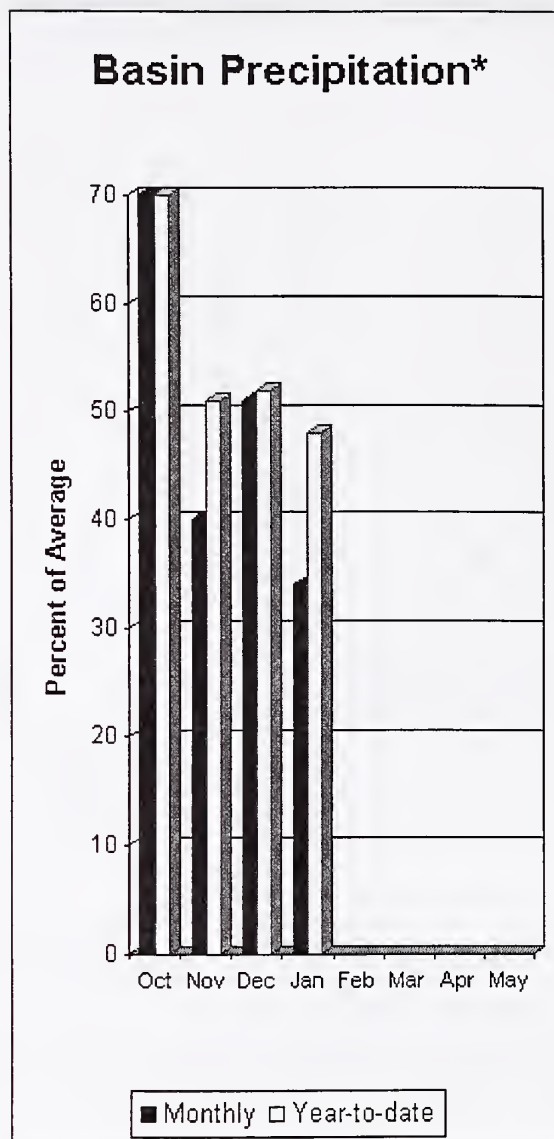
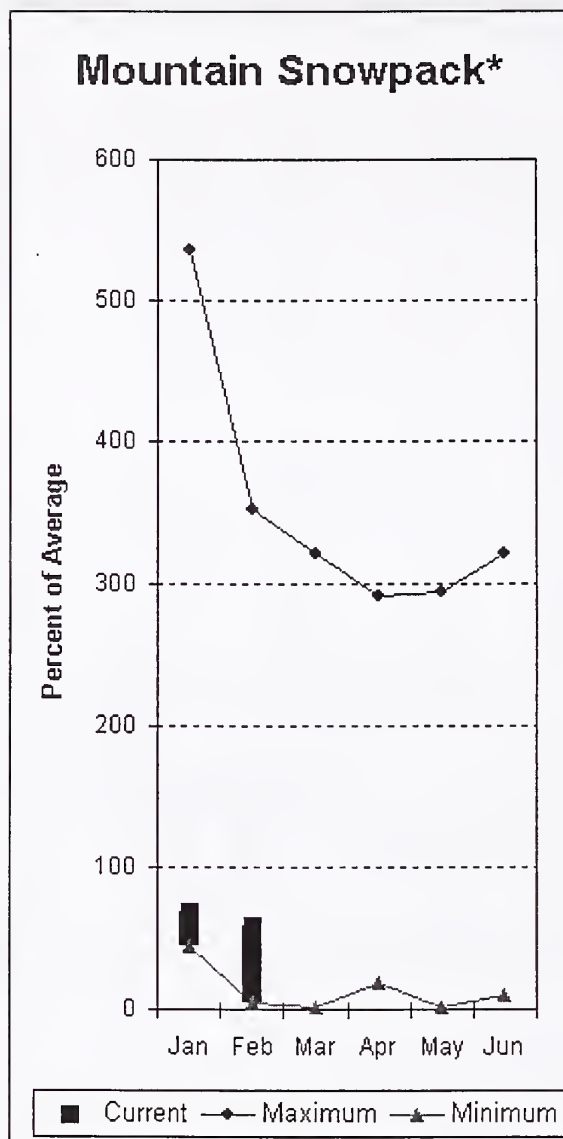
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Colville-Pend Oreille River Basins
 Percent of Average
 February 1, 2001

Snowpack - 65%
 Precipitation - 44%
 Reservoir - 47%



Okanogan - Methow River Basins



*Based on selected stations

Summer runoff average forecast for the Okanogan River is 58%, Similkameen River is 56%, Methow River is 57% and Salmon Creek is 63%. February 1 snow cover on the Okanogan was 59% of average and Methow was 54%. Moses Mountain SNOTEL site had a February 1 reading of 46% of average. January precipitation in the Okanogan-Methow was 34% of average, with precipitation for the water year at 48% of average. January streamflow for the Methow River was 65% of average, 61% for the Okanogan River and 55% for the Similkameen. Snow-water content at the Salmon Meadows SNOTEL, near Conconully, was 3.6 inches. Average for this site is 5.9 inches on February 1. Salmon Meadows, Moses Mountain and Harts Pass SNOTEL sites all set new record low snow water content for February 1. Combined storage in the Conconully Reservoirs was 12,700-acre feet, which is 54% of capacity and 92% of the February 1 average. Temperatures were slightly above normal for the past month and through out the water year.

For more information contact your local Natural Resources Conservation Service office.

Okanogan - Methow River Basins

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		Chance Of Exceeding *		Chance Of Exceeding *		Chance Of Exceeding *		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SIMILKAMEEN near Nighthawk (1)	APR-JUL	420	643	745	57	847	1070	1304
	APR-SEP	460	680	780	56	880	1100	1399
OKANOGAN near Tonasket (1)	APR-JUL	145	630	850	58	1070	1555	1466
	APR-SEP	175	701	940	58	1179	1705	1623
SALMON CREEK near Conconully	APR-JUL	0.2	6.8	11.8	62	16.8	24	19.1
	APR-SEP	0.2	7.4	12.5	63	17.6	25	20
METHOW RIVER near Pateros	APR-SEP	345	458	535	57	612	725	942
	APR-JUL	317	419	488	56	557	659	873

OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of January

OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SALMON LAKE	10.5	6.9	7.4	7.5	OKANOGAN RIVER	16	62	59
CONCONULLY RESERVOIR	13.0	5.8	10.7	6.3	OMAK CREEK	1	44	46
					SANPOIL RIVER	0	0	0
					SIMILKAMEEN RIVER	3	87	64
					TOATS COULEE CREEK	1	143	69
					CONCONULLY LAKE	3	64	54
					METHOW RIVER	5	58	54

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The average is computed for the 1961-1990 base period.

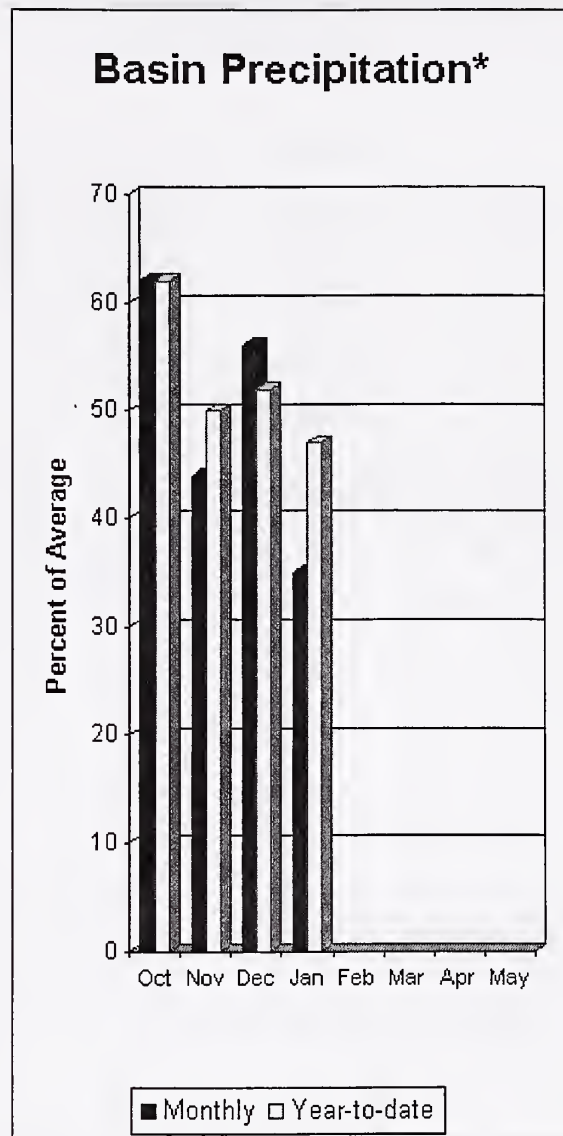
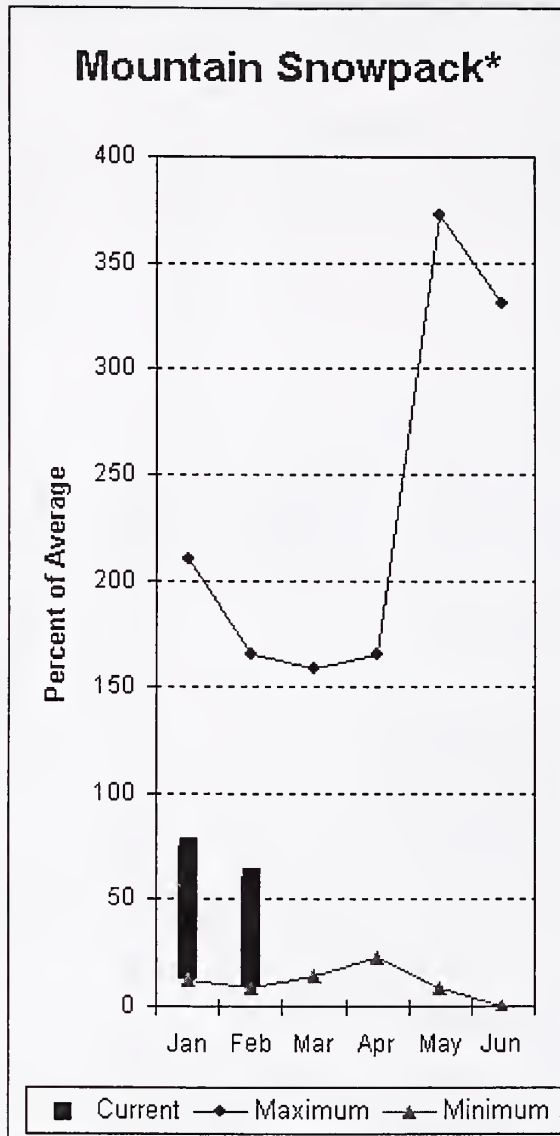
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Okanogan-Methow River Basins
Percent of Average
February 1, 2001

Snowpack - 58%
Precipitation - 48%
Reservoir - 92%



Wenatchee - Chelan River Basins



*Based on selected stations

Precipitation during January was 35% of average in the basin and 47% for the year-to-date. Runoff for Entiat River is forecast to be 55% of average for the summer. The April-September average forecast for Chelan River is 63%, Wenatchee River at Plain is 63% and Stehekin is 69%. Icicle, Stemilt and Squilchuck creeks are all expected to fall into the same forecast range. January average streamflows on the Chelan River were 32% and on the Wenatchee River 35%. February 1 average snowpack in Wenatchee Basin was 61%, in Chelan Basin was 51%; and Stemilt Creek was 66%. Snowpack in the Entiat River Basin was 65% of average. Reservoir storage in Lake Chelan was 365,100-acre feet, 67% of February 1 average and 54% of capacity. Lyman Lake SNOTEL had the most snow water with 19.9 inches of water. This site would normally have 39 inches on February 1. Temperatures were about 3 degrees above normal for January. New record low snow water content was recorded at Lyman Lake, Miners Ridge, Pope Ridge and Blewett Pass SNOTEL sites.

For more information contact your local Natural Resources Conservation Service office.

Wenatchee - Chelan River Basins

Streamflow Forecasts - February 1, 2001

		<----- Drier -----		Future Conditions -----		>----- Wetter ----->		
Forecast Point	Forecast Period	=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
=====								
CHELAN RIVER near Chelan	APR-SEP	558	664	735	63	806	912	1160
	APR-JUL	506	595	655	64	715	804	1024
STEHEKIN near STEHEKIN	APR-SEP	456	524	570	69	616	684	827
	APR-JUL	395	448	485	69	522	575	701
ENTIAT RIVER near Ardenvoir	APR-SEP	83	108	125	55	142	167	227
	APR-JUL	75	98	113	55	128	151	206
WENATCHEE at Plain	APR-SEP	607	713	785	66	857	963	1190
	APR-JUL	577	655	707	66	759	837	1072
WENATCHEE R. at Peshastin	APR-SEP	589	851	1030	63	1209	1471	1636
	APR-JUL	439	743	950	64	1157	1461	1485
STEMILT nr Wenatchee (miners in)	MAY-SEP	41	69	88	64	107	135	138
ICICLE CREEK near Leavenworth	APR-SEP	220	244	260	76	276	300	344
	APR-JUL	203	225	240	76	255	277	318
COLUMBIA R. bl Rock Island Dam (2)	APR-SEP	35083	41643	46100	65	50557	57117	70485
	APR-JUL	27588	34442	39100	66	43758	50612	59736

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of January

WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CHELAN LAKE	676.1	365.1	444.1	450.6	CHELAN LAKE BASIN	5	48	51
					ENTIAT RIVER	2	78	65
					WENATCHEE RIVER	13	59	61
					SQUILCHUCK CREEK	0	0	0
					STEMILT CREEK	2	75	66
					COLOCKUM CREEK	2	68	63

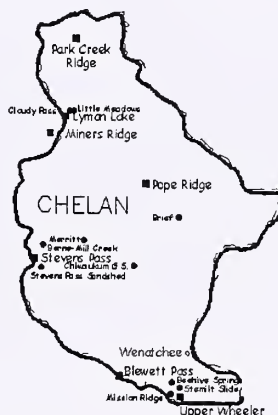
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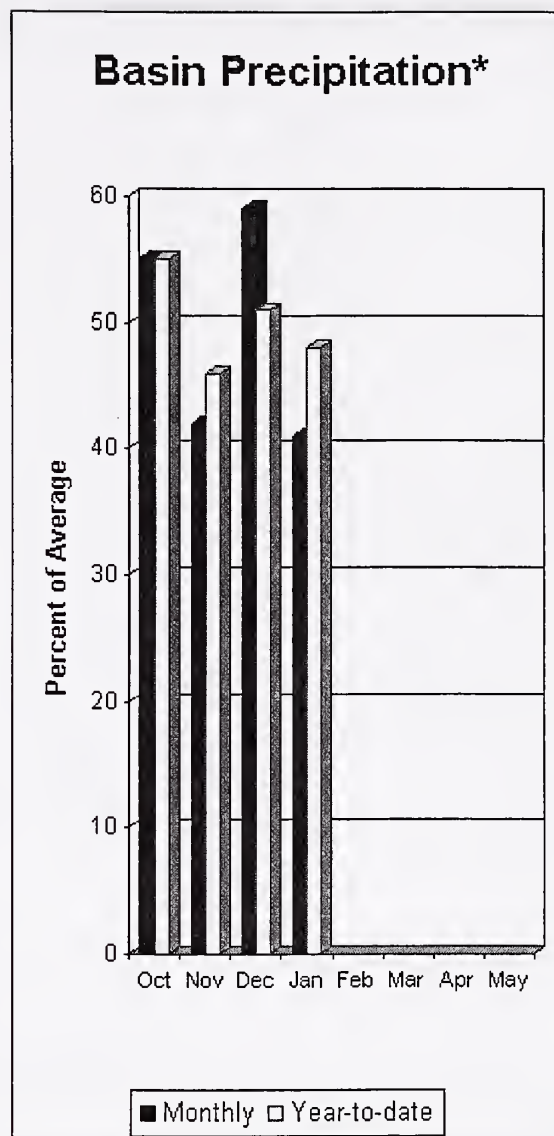
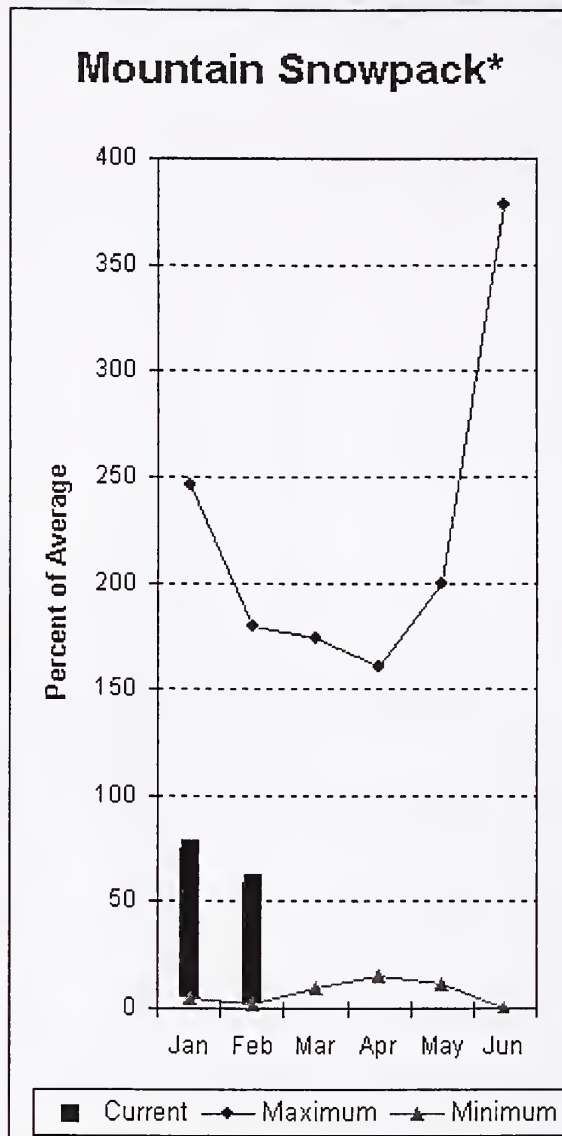
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Wenatchee-Chelan River Basins Percent of Average February 1, 2001

Snowpack - 61%
 Precipitation - 47%
 Reservoir - 81%



Upper Yakima River Basin



*Based on selected stations

February 1 reservoir storage for the Upper Yakima reservoirs was 234,200-acre feet, 45% of average. Forecasts for the Yakima River at Cle Elum are 70% of average. Lake inflows are all expected to be slightly below average this summer. January streamflows within the basin were Yakima near Cle Elum at 27% and Cle Elum River near Roslyn at 20%. February 1 snowpack was 59% based upon 12 snow courses and SNOTEL readings within the Upper Yakima Basin. Fish Lake, Sasse Ridge, Olallie Meadows, Blewett Pass and Stampede Pass SNOTEL sites all recorded new minimum snow water content on February 1. Precipitation was 41% of average for January and 48% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Upper Yakima River Basin

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		>>===== Wetter =====<<		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
KEECHELUS LAKE INFLOW	APR-JUL	69	83	93	75	103	117	124
	APR-SEP	74	89	100	74	111	126	135
KACHESS LAKE INFLOW	APR-JUL	58	70	78	70	86	98	111
	APR-SEP	59	72	81	69	90	103	118
CLE ELUM LAKE INFLOW	APR-JUL	242	277	300	73	323	358	409
	APR-SEP	251	292	320	71	348	389	448
YAKIMA at Cle Elum	APR-JUL	466	540	590	71	640	714	832
	APR-SEP	505	585	640	70	695	775	915
TEANAWAY near Cle Elum	APR-JUL	64	78	88	62	98	112	141
	APR-SEP	66	80	90	62	100	114	145

UPPER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER YAKIMA RIVER BASIN Watershed Snowpack Analysis - February 1, 2001			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	25.4	75.9	96.0	UPPER YAKIMA RIVER	12	56	59
KACHESS	239.0	117.6	192.0	170.0				
CLE ELUM	436.9	91.2	311.8	251.0				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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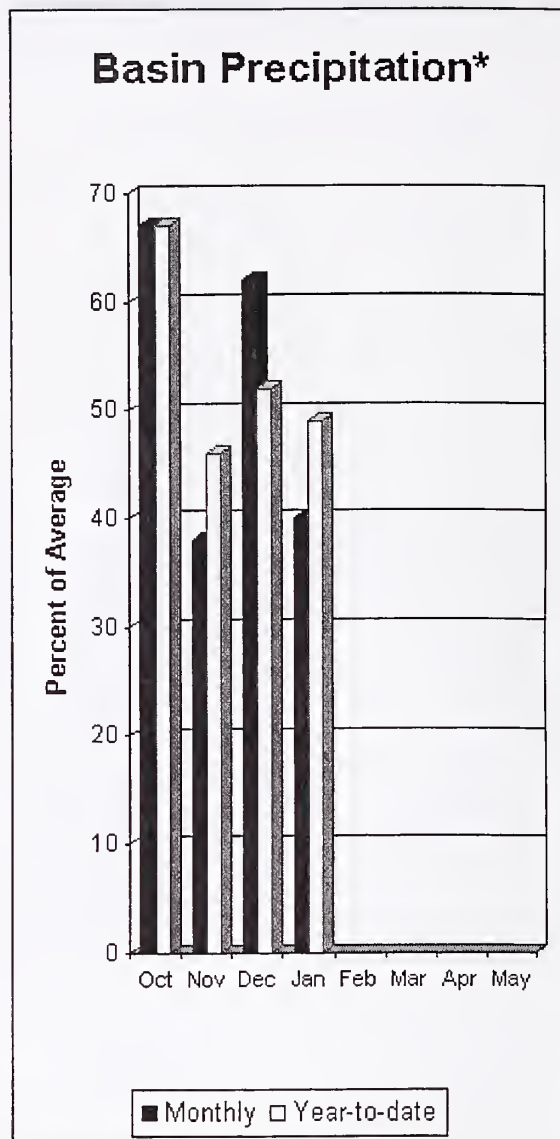
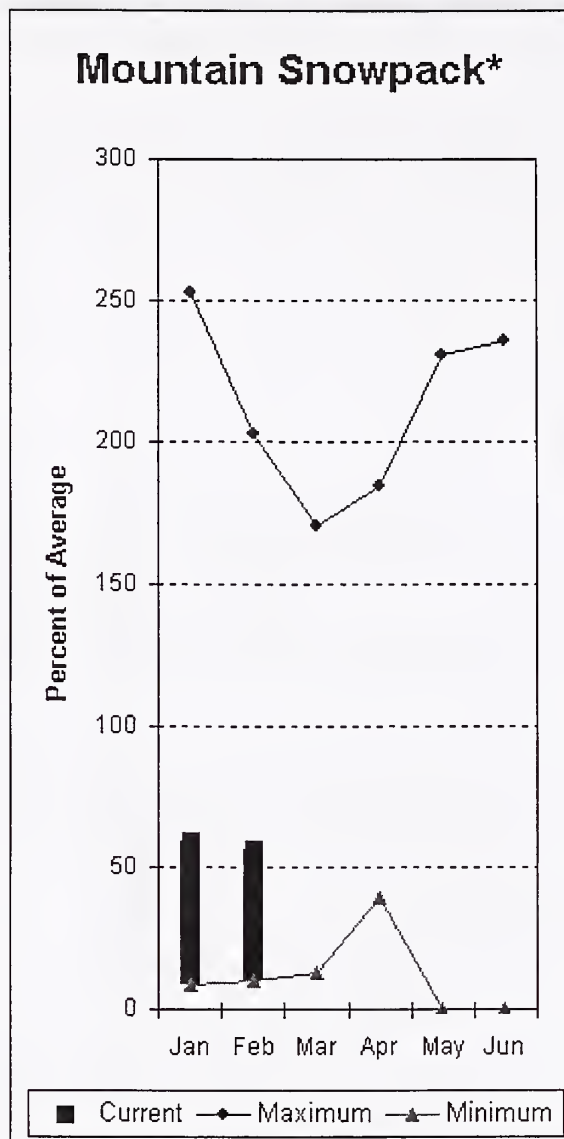
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Upper Yakima River Basin
 Percent of Average
 February 1, 2001

Snowpack - 59%
 Precipitation - 48%
 Reservoir - 45%

Lower Yakima River Basin



*Based on selected stations

January average streamflows within the basin were: Yakima River near Parker, 25%; Naches River near Naches, 28%; and Yakima River at Kiona, 46%. February 1 reservoir storage for Bumping and Rimrock reservoirs was 101,900-acre feet, 82% of average. Forecast averages for Yakima River at Parker are 64%; American River near Nile, 70%; Ahtanum Creek, 54%; and Klickitat River near Glenwood, 79%. February 1 snowpack was 61% based upon 8 snow courses and SNOTEL readings within the Lower Yakima Basin. Green Lake, Pigtail Peak, Lost Horse and White Pass SNOTEL sites all recorded new minimum snow water content for February 1. Precipitation was 40% of average for January and 49% year-to-date for water. Temperatures were 3 degrees above normal for the month and 1 degrees below average for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Lower Yakima River Basin

Streamflow Forecasts - February 1, 2001

		<----- Drier ----- Future Conditions ----- Wetter ----->							
Forecast Point	Forecast Period	-----		Chance Of Exceeding *		-----		30-Yr Avg. (1000AF)	
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
=====									
BUMPING LAKE INFLOW	APR-SEP	65	80	91	67	102	117	136	
	APR-JUL	61	75	84	68	93	107	124	
AMERICAN RIVER near Nile	APR-SEP	61	74	82	70	90	103	118	
	APR-JUL	57	68	76	70	84	95	109	
RIMROCK LAKE INFLOW	APR-SEP	115	140	157	66	174	199	238	
	APR-JUL	101	121	134	67	147	167	200	
NACHES near Naches	APR-SEP	371	448	500	60	552	629	832	
	APR-JUL	348	415	460	61	505	572	755	
AHTANUM CREEK nr Tampico (2)	APR-SEP	6.3	17.5	25	54	33	44	46	
	APR-JUL	5.9	16.1	23	55	30	40	42	
YAKIMA near Parker	APR-SEP	948	1140	1270	64	1400	1592	1994	
	APR-JUL	886	1058	1175	65	1292	1464	1805	
KLICKITAT near Glenwood	APR-JUN	66	79	87	79	95	108	110	
	APR-SEP	81	99	111	79	123	141	140	

LOWER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of January					LOWER YAKIMA RIVER BASIN Watershed Snowpack Analysis - February 1, 2001		
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
BUMPING LAKE	33.7	3.3	14.1	9.0			
RIMROCK	198.0	98.6	140.7	115.0			

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

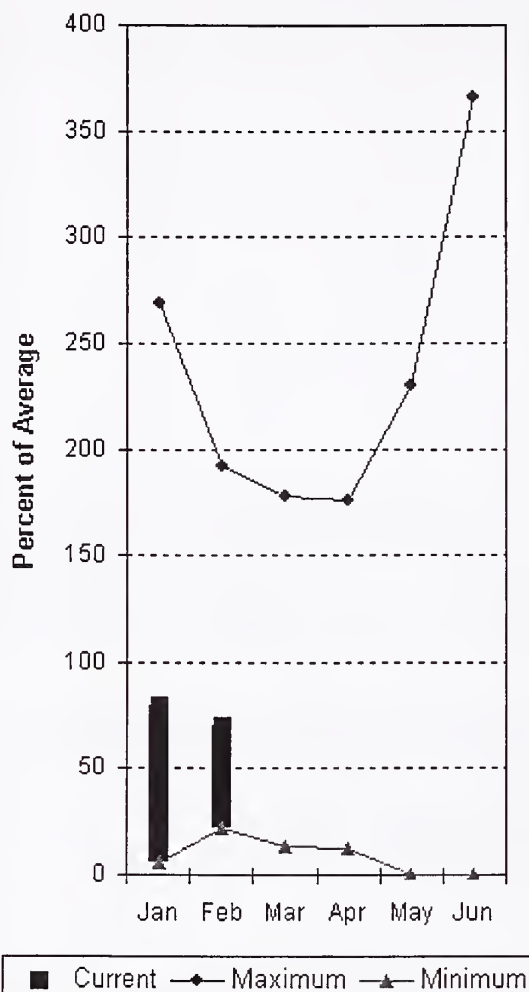


Lower Yakima River Basin
 Percent of Average
 February 1, 2001

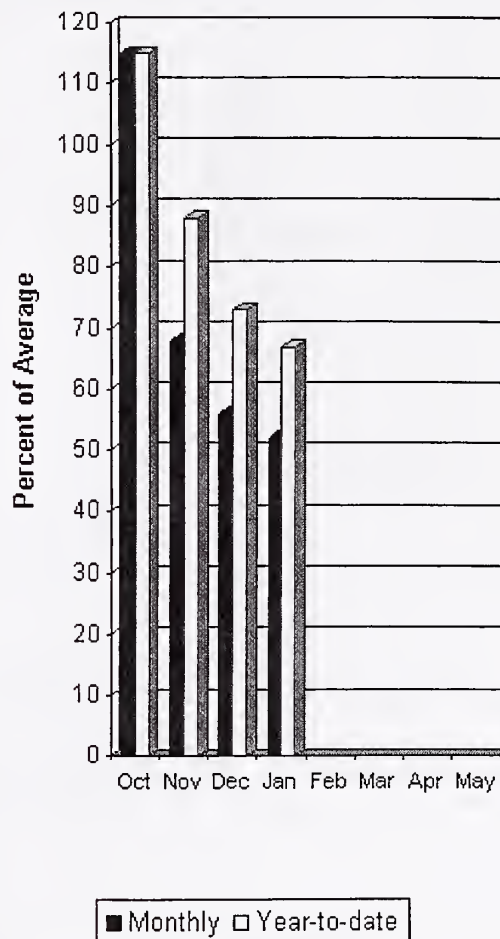
Snowpack - 56%
 Precipitation - 49%
 Reservoir - 82%

Walla Walla River Basin

Mountain Snowpack*



Basin Precipitation*



*Based on selected stations

January precipitation was 52% of average, dropping the year-to-date precipitation to 67% of average. February 1 average snowpack was at 70%. The forecast for the coming summer is for 82% of average streamflow in the South Fork Walla Walla River and 85% for Mill Creek. January streamflow was 45% of average for the Walla Walla River. The Touchet SNOTEL site had 13.5 inches of snow-water-equivalent. The average February 1 reading for this site is 20.8 inches. Average temperatures were 1 degree below normal for January and have averaged 2-3 degrees below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Walla Walla River Basin

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding *		30% (1000AF)	10% (1000AF)	
				50% (Most Probable) (1000AF)	(% AVG.)			
MILL CREEK at Walla Walla	APR-SEP	6.4	11.2	14.5	85	17.8	23	17.1
	APR-JUL	6.3	11.1	14.4	85	17.7	23	16.9
SF WALLA WALLA near Milton-Freewater	APR-JUL	33	39	44	82	48	54	53
	APR-SEP	42	49	54	82	59	66	66

WALLA WALLA RIVER BASIN Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					WALLA WALLA RIVER	2	64	70

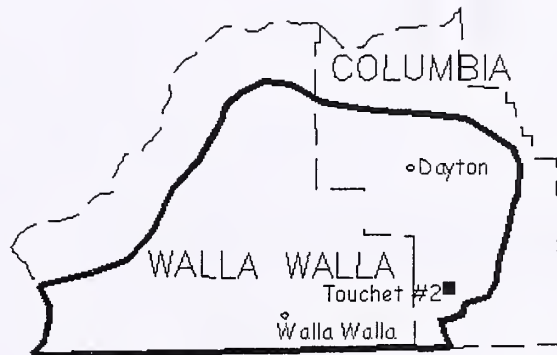
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

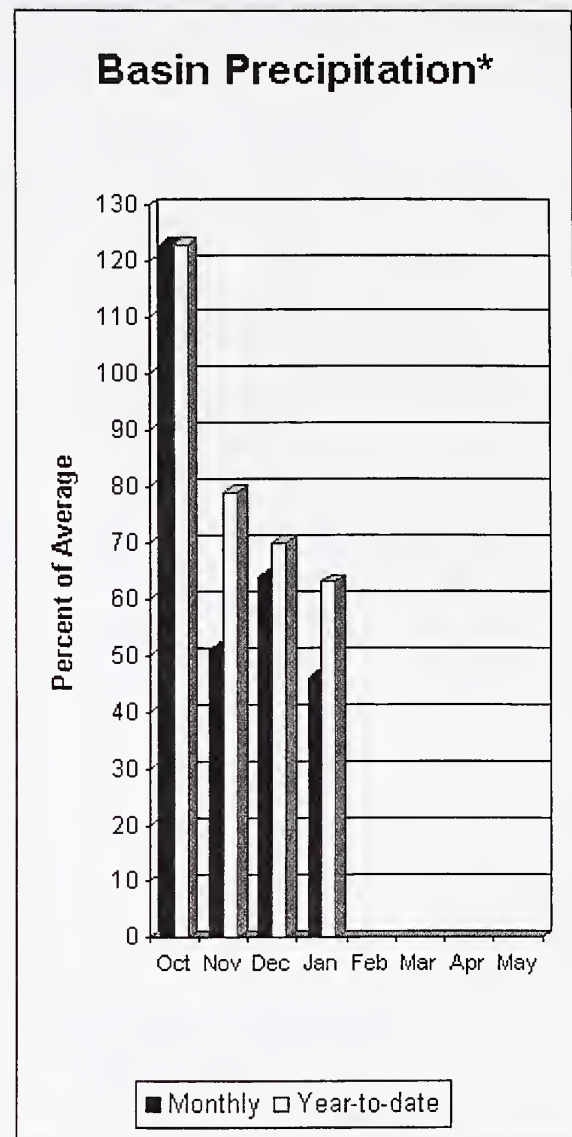
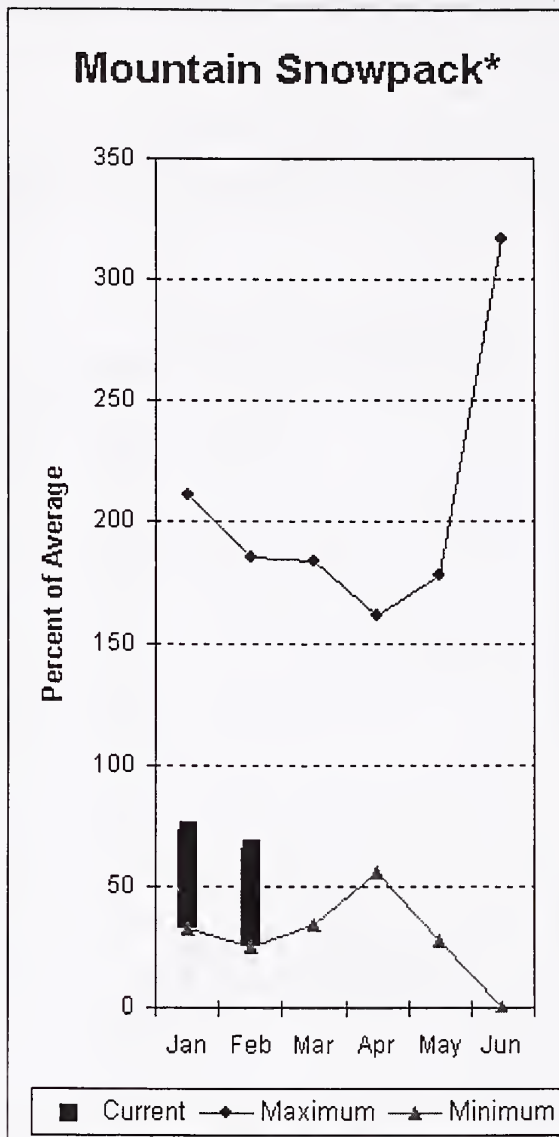
Walla Walla River Basin
Percent of Average
February 1, 2001

Snowpack - 70%
Precipitation - 67%



High Ridge ■

Lower Snake River Basin



*Based on selected stations

The April - September forecast is for 64% of average streamflow in the Snake River below Lower Granite Dam, 79% for Grande Ronde at Troy, and 71% for Clearwater River at Spalding. January precipitation was 46% of average, bringing the year-to-date precipitation to 63% of average. February 1 snowpack was at 66% of average. January streamflow was 49% of average for Snake River below Lower Granite Dam and 38% for Grande Ronde River near Troy. Average temperatures were near normal for January but remain 2 degrees below normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Lower Snake River Basin

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<----- Drier -----		Future Conditions -----		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
GRANDE RONDE at Troy (1)	MAR-JUL	622	1012	1190	81	1368	1758	1471
	APR-SEP	526	879	1040	79	1201	1554	1312
CLEARWATER at Spalding (1,2)	APR-JUL	3693	4894	5440	71	5986	7187	7618
	APR-SEP	4027	5205	5740	71	6275	7453	8051
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	4685	11091	14000	65	16909	23315	21650
	APR-SEP	5231	12430	15700	64	18970	26169	24360

LOWER SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

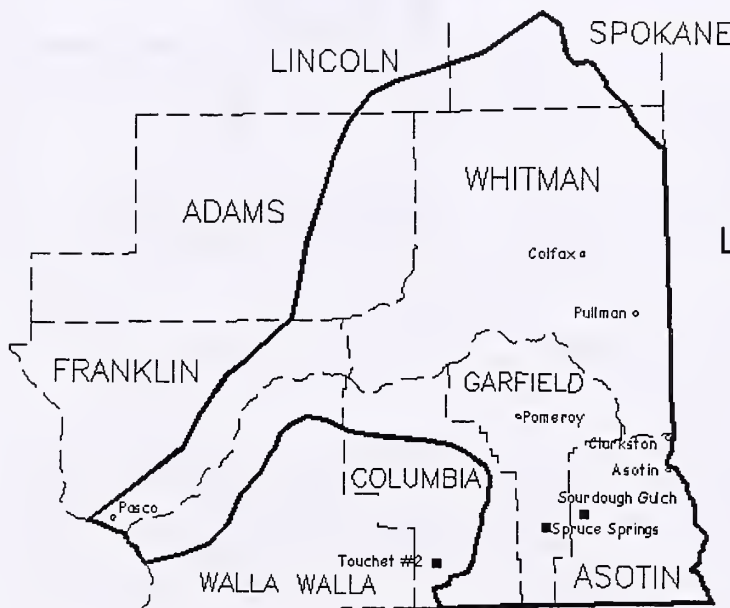
LOWER SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
LOWER SNAKE, GRANDE RONDE	16	58	66

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

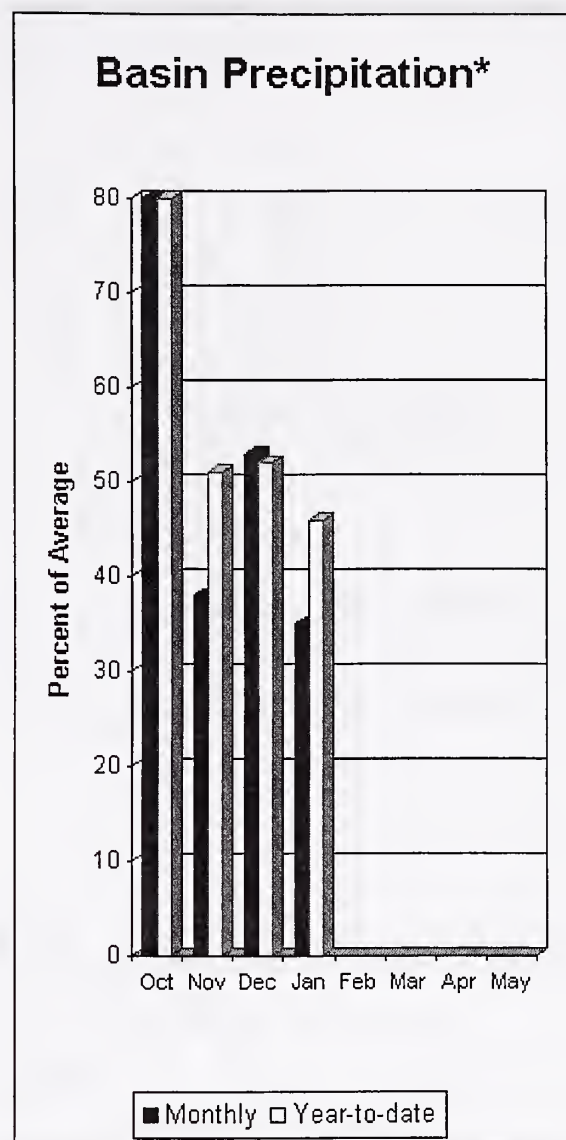
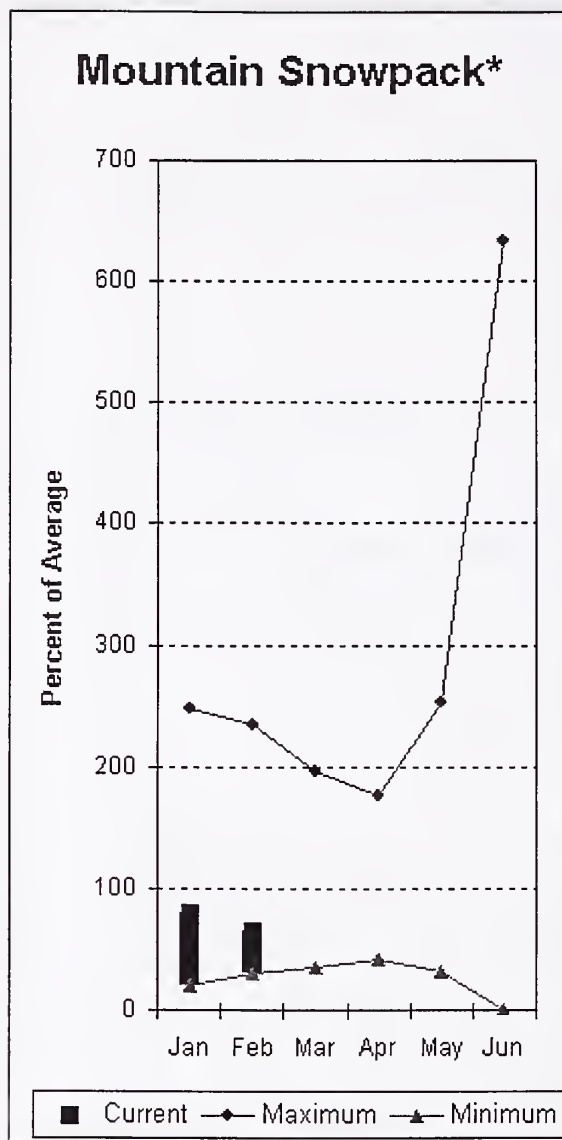
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Lower Snake River Basin
Percent of Average
February 1, 2001

Snowpack - 66%
Precipitation - 63%

Cowlitz - Lewis River Basins



*Based on selected stations

Early season forecasts for April – September flows within the basin show a tight range of 74-79% of average. January average streamflow for Cowlitz River was 33% and 34% for Lewis River. January precipitation was 35% of average and the water-year average was 46%. February 1 snow cover for Cowlitz River was 60%, and Lewis River was 70% of average. The Paradise Park SNOTEL recorded the most water content for the basin with 25.1 inches, the second lowest recorded at this site. Average February 1 water content is 38.5 inches. Average temperatures were near normal during January and have remained so throughout the water year.

For more information contact your local Natural Resources Conservation Service office.

Cowlitz - Lewis River Basins

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<----- Drier ----->		Future Conditions		>----- Wetter ----->		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
LEWIS at Ariel (2)	APR-JUL	527	701	820	78	939	1113	1053
	APR-SEP	637	818	940	78	1062	1243	1206
COWLITZ R. bl Mayfield Dam (2)	APR-SEP	366	1017	1460	74	1903	2554	1970
	APR-JUL	181	835	1280	74	1725	2379	1731
COWLITZ R. at Castle Rock (2)	APR-SEP	523	1444	2070	78	2696	3617	2667
	APR-JUL	1032	1489	1800	77	2111	2568	2325
Klickitat near Glenwood	APR-JUN	66	79	87	79	95	108	110
	APR-SEP	81	99	111	79	123	141	140
COLUMBIA R. at The Dalles (2)	APR-SEP	45309	55545	62500	63	69455	79691	98982
	APR-JUL	34583	45906	53600	63	61294	72617	84760

COWLITZ - LEWIS RIVER BASINS Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

COWLITZ - LEWIS RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
LEWIS RIVER	4	44	70
COWLITZ RIVER	7	48	60

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

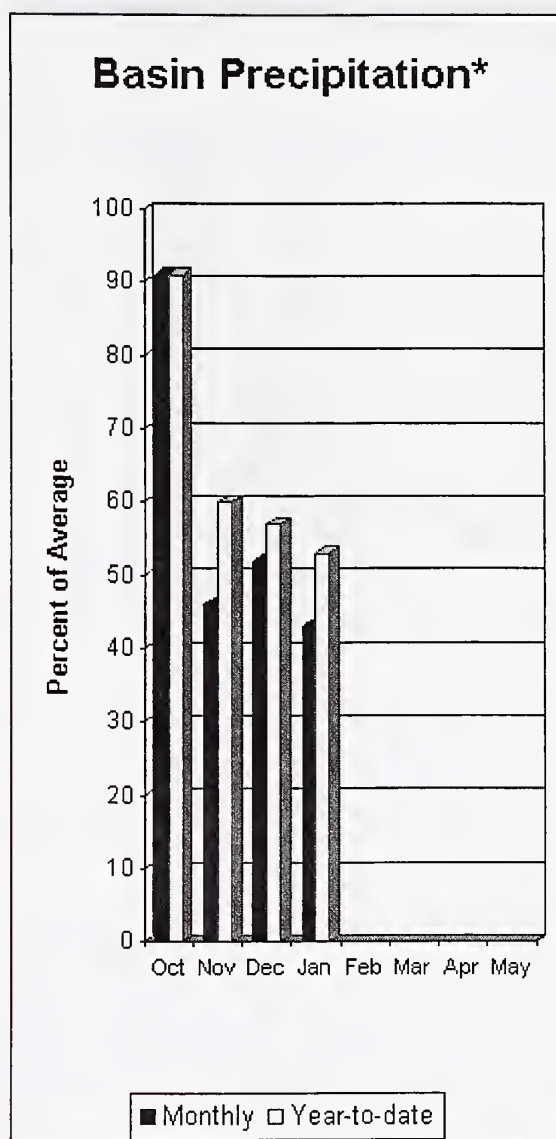
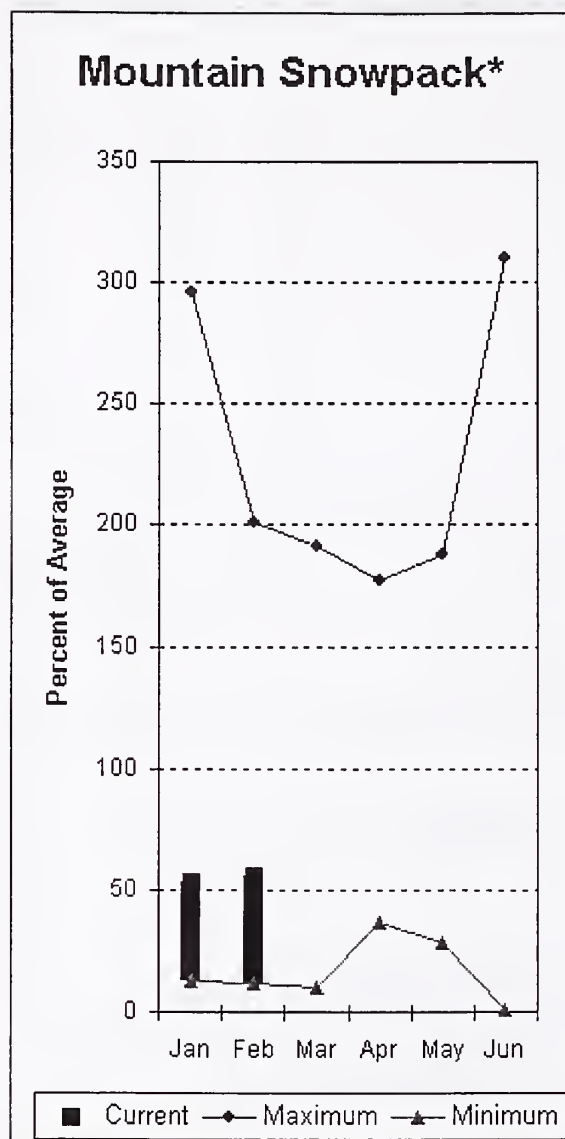
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Cowlitz-Lewis River Basins
Percent of Average
February 1, 2001

Snowpack - 65%
Precipitation - 46%

White - Green River Basins



*Based on selected stations

Summer runoff is forecast to be 69% of normal for the Green River below Howard Hanson Dam and 75% for the White River near Buckley. February 1 snowpack was 61% of average in both White River and Puyallup river basins and 45% in Green River Basin. Water content on February 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 12 inches. This site has a February 1 average of 21.3 inches. January precipitation was 43% of average, bringing the water year-to-date to 53% of average for the basins. Average temperatures in the area were near normal.

For more information contact your local Natural Resources Conservation Service office.

White - Green - Puyallup River Basins

Streamflow Forecasts - February 1, 2001

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
WHITE near Buckley (1,2)	APR-JUL	237	304	335	75	366	433	447
	APR-SEP	291	369	405	75	441	519	542
GREEN below Howard Hanson (1,2)	APR-JUL	92	150	177	69	204	262	257
	APR-SEP	110	170	197	69	224	284	285

WHITE - GREEN - PUYALLUP RIVER BASINS Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

WHITE - GREEN - PUYALLUP RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
WHITE RIVER	3	50	61
GREEN RIVER	7	40	45
PUYALLUP RIVER	3	49	61

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

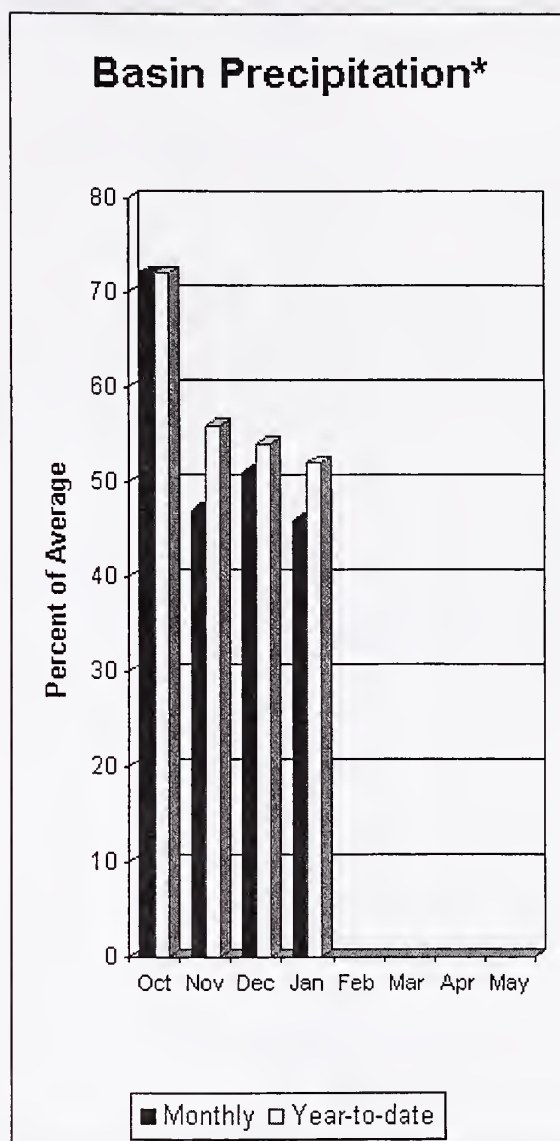
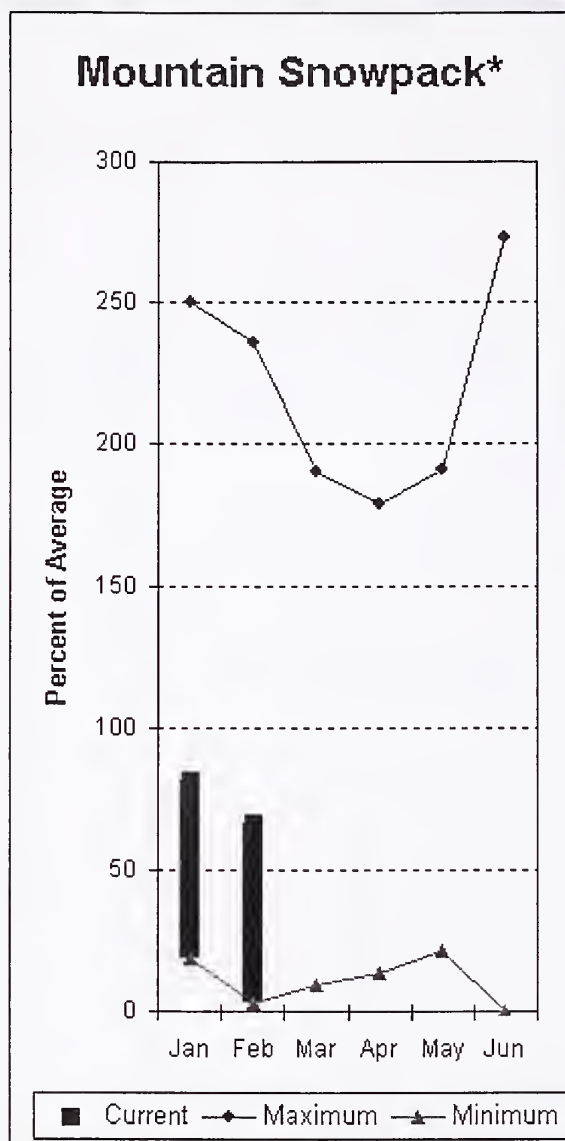
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- (2) - The value is natural flow - actual flow may be affected by upstream water management.



White-Green-Puyallup Basins
Percent of Average
February 1, 2001

Snowpack - 56%
Precipitation - 53%

Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 72% for Cedar River near Cedar Falls; 71% for Rex River; 73% for South Fork of the Tolt River; and 69% for Cedar River at Cedar Falls. Basin-wide precipitation for January was 461% of average, bringing water-year-to-date to 52% of average. February 1 average snow cover in Cedar River Basin was 81%, Tolt River Basin was 61%, Snoqualmie River Basin was 59%, and Skykomish River Basin was 63%. Stevens Pass SNOTEL, at 4,070 feet, had 14.1 inches of water content. Average February 1 water content is 27.3 inches. January temperatures were slightly above normal for the past month. Stampede Pass and Olallie Meadows SNOTEL sites both recorded the lowest amount of snow water ever measured, by electronic instruments, at those locations.

For more information contact your local Natural Resources Conservation Service office.

Central Puget Sound River Basins

Streamflow Forecasts - February 1, 2001

		<<===== Drier =====>>		Future Conditions		>===== Wetter =====>		
Forecast Point	Forecast Period	=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CEDAR near Cedar Falls	APR-JUL	36	47	55	72	63	74	77
	APR-SEP	41	53	61	72	69	81	84
REX near Cedar Falls	APR-JUL	10.4	15.5	19.0	70	23	28	27
	APR-SEP	12.5	17.9	22	71	25	31	30
CEDAR RIVER at Cedar Falls	APR-JUL	28	45	57	70	69	86	82
	APR-SEP	29	46	58	69	69	86	83
SOUTH FORK TOLT near Index	APR-JUL	7.9	9.9	11.2	74	12.5	14.5	15.2
	APR-SEP	9.5	11.6	13.0	73	14.4	16.5	17.8

CENTRAL PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

CENTRAL PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
CEDAR RIVER	3	55	81
TOLT RIVER	1	47	71
SNOQUALMIE RIVER	4	53	61
SKYKOMISH RIVER	3	54	63

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

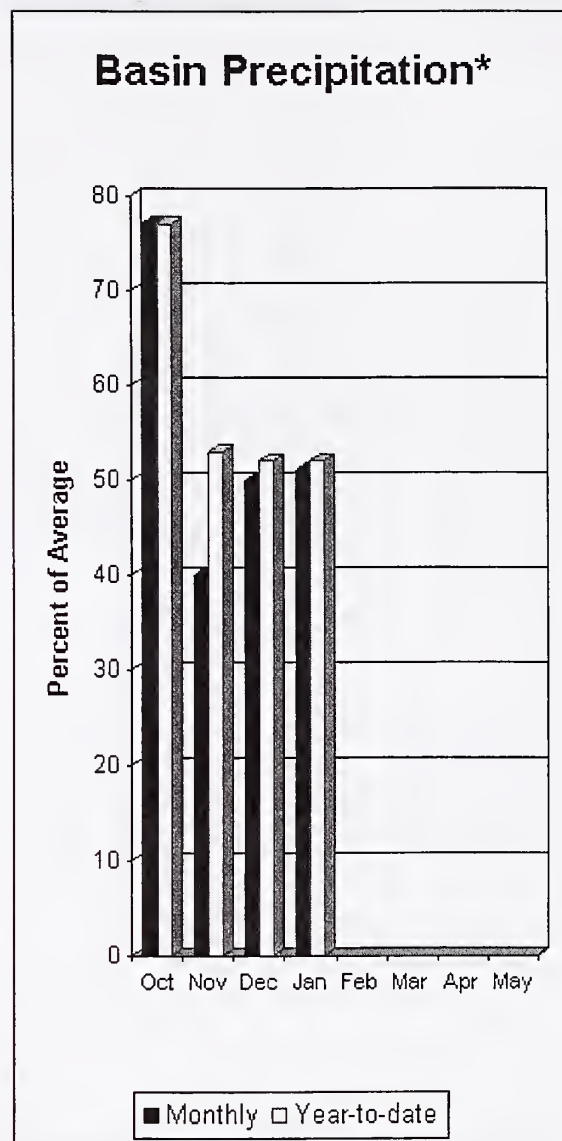
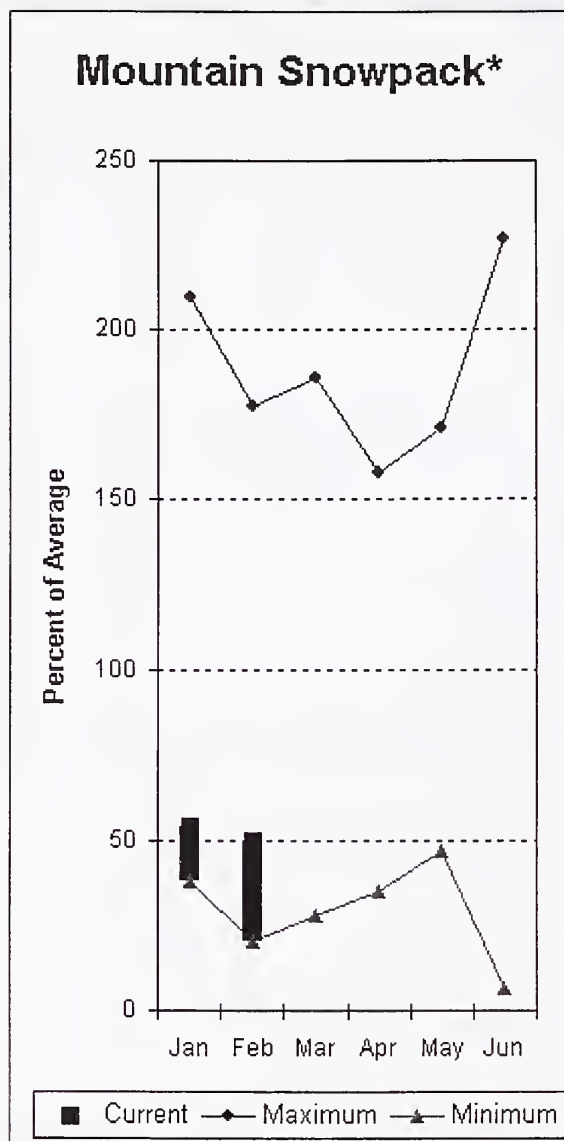
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Central Puget Sound Basins Percent of Average February 1, 2001

Snowpack - 66%
Precipitation - 52%



North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow is 73% of average for the spring and summer period. January streamflow in Skagit River was 53% of average. Other forecast points included Baker River at 77% and Thunder Creek at 76% of average. Basin-wide precipitation for January was 51% of average, bringing water-year-to-date to 52% of average. February 1 average snow cover in Skagit River Basin was 48%, Baker River Basin was 50% and Nooksack River Basin was 53%. Rainy Pass SNOTEL, at 4,780 feet, had 13.4 inches of water content. Average February 1 water content was 24.5 inches. February 1 Skagit River reservoir storage was 86% of average and 64% of capacity. Average January temperatures were 2 degrees above normal for the basin but remain near average for the water year. All three long-term SNOTEL sites in the basin recorded new record low snowpack. Beating the, most recent, previous record low years of 1993 and 1994 at Rainy Pass, Harts Pass and Thunder Basin SNOTEL sites.

For more information contact your local Natural Resources Conservation Service office.

North Puget Sound River Basins

Streamflow Forecasts - February 1, 2001

		<<----- Drier ----- Future Conditions ----- Wetter ----->>						
Forecast Point	Forecast Period	Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
THUNDER CREEK near Newhalem	APR-JUL	150	165	175	76	185	200	230
	APR-SEP	220	238	250	76	262	280	328
SKAGIT at Newhalem (2)	APR-JUL	1109	1246	1340	71	1434	1571	1879
	APR-SEP	1353	1495	1591	73	1687	1829	2191
BAKER RIVER near Concrete	APR-JUL	520	594	645	77	696	770	836
	APR-SEP	667	758	820	77	882	973	1064

NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
ROSS	1404.1	872.7	1017.4	1033.9
DIABLO RESERVOIR	90.6	87.0	87.7	84.2
GORGE RESERVOIR		NO REPORT		

NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
SKAGIT RIVER	12	45	48
BAKER RIVER	3	42	50
NOOKSACK RIVER	2	42	53

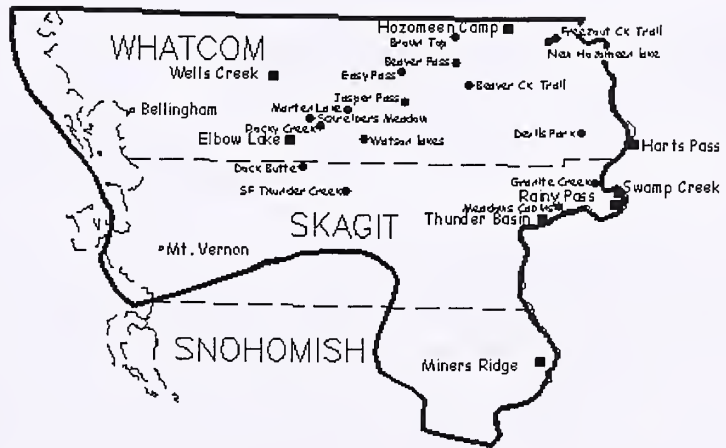
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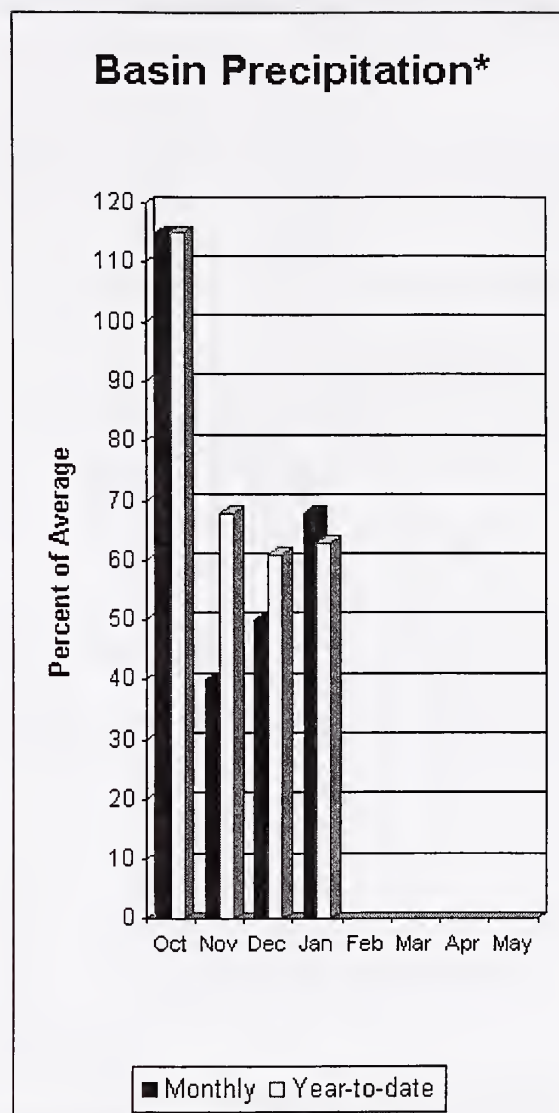
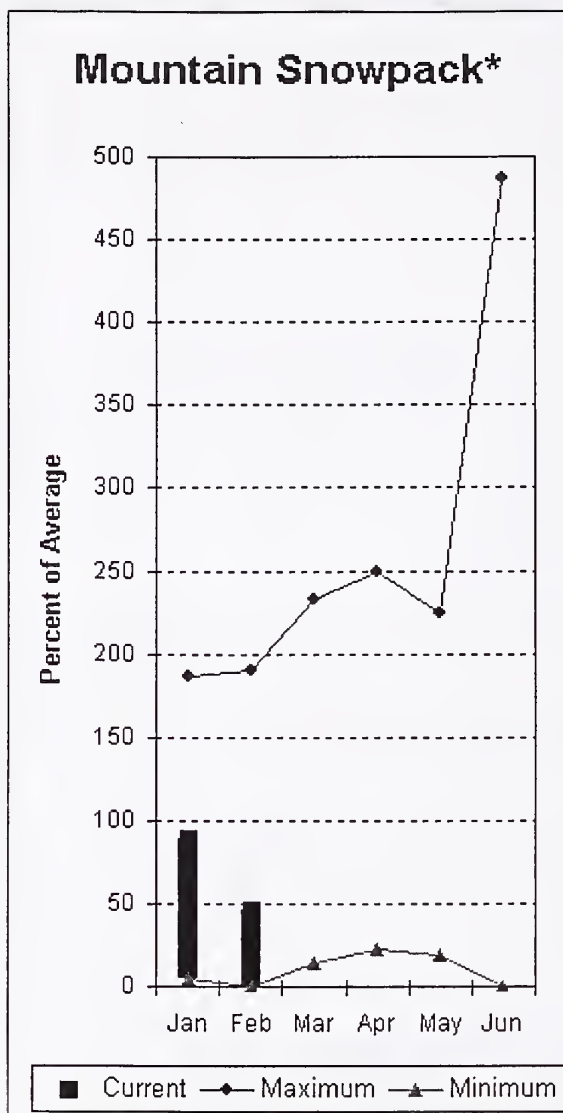
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North Puget Sound Basins Percent of Average February 1, 2001

Snowpack - 50%
 Precipitation - 52%
 Reservoir - 86%



Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow in Dungeness River Basin is 70% and 71% for Elwha River. Big Quilcene and Wynoochee rivers could expect near average runoff this summer. January precipitation was 68% of average. Precipitation has accumulated at 63% of average for the water year. January precipitation at Quillayute was 11.51 inches. The thirty-year average for January is 14.65 inches. February 1 snow cover in the Elwah River Basin was at 12% of average, Morse Creek Basin was 42%, Dungeness River Basin was 45% and Quilcene River Basin was 81%. The Mount Crag SNOTEL near Quilcene had 13.7 inches of snow-water-equivalent on February 1. Average for this site is 16.9 inches. Hurricane Ridge snow course measurements report only 1.7 inches of snow water, the third lowest in 41 years of record. Normally Hurricane Ridge would have 13.7 inches. Temperatures were 1 degree above average for the month and near average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Olympic Peninsula River Basins

Streamflow Forecasts - February 1, 2001

		<===== Drier ===== Future Conditions ===== Wetter =====>						
Forecast Point	Forecast Period	Chance Of Exceeding *		Chance Of Exceeding *		Chance Of Exceeding *		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DUNGENESS near Sequim	APR-SEP	90	100	107	70	114	124	153
	APR-JUL	74	82	87	70	92	100	125
ELWHA near Port Angeles	APR-SEP	293	333	360	71	387	427	510
	APR-JUL	248	279	300	71	321	352	424

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - February 1, 2001

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
OLYMPIC PENINSULA	4	40	46
ELWHA RIVER	1	12	12
MORSE CREEK	1	33	42
DUNGENESS RIVER	1	50	45
QUILCENE RIVER	1	57	81
WYNOOCHEE RIVER	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

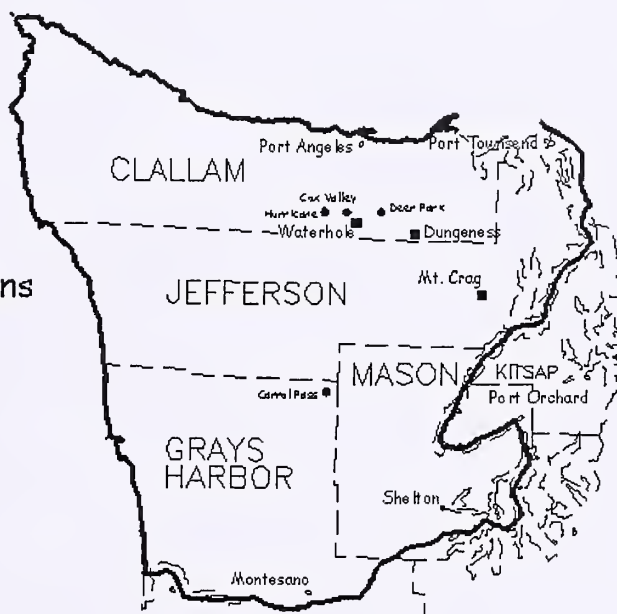
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(2) - The value is natural flow - actual flow may be affected by upstream water management.

Olympic Peninsula River Basins
Percent of Average
February 1, 2001

Snowpack - 46%
Precipitation - 63%



Issued by

Released by

Pearlie S. Reed
Chief
Natural Resources Conservation Service
U.S. Department of Agriculture

Leonard Jordan
State Conservationist
Natural Resources Conservation Service
Spokane, Washington

The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of the Environment Investigations Branch, Victoria, British Columbia
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Federal	Department of the Army Corps of Engineers U.S. Department of Agriculture Forest Service U.S. Department of Commerce NOAA, National Weather Service U.S. Department of Interior Bonneville Power Administration Bureau of Reclamation Geological Survey National Park Service Bureau of Indian Affairs
Local	City of Tacoma City of Seattle Chelan County P.U.D. Pacific Power and Light Company Puget Sound Power and Light Company Washington Water Power Company Snohomish County P.U.D. Colville Confederated Tribes Spokane County Yakama Indian Nation Whatcom County Pierce County
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*Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.



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